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ABSTRACT

The document presents an analysis of the economic status of certain minority groups in the United States. The groups include Blacks, American Indians, Chicanos, Puerto Ricans, Cubans, Japanese, Chinese, and Filipinos. Specifically, the document examines differences in female labor supply, female occupational status, and male earnings among the groups. The document is presented in six chapters. Chapter I summarizes findings of the study. Findings indicated that only half of the very large differences in female labor supply can be explained by differences in group characteristics; effects of education vary greatly among the nine groups; immigrants earn far less than natives when they first arrive but their position improves rapidly during their own lifetime; and children of immigrants earn more than the children of natives. Chapter II presents brief descriptions of the minority groups based on the 1970 population census. Information is presented for each group on periods of immigration, educational attainment, marital status, family size, labor force participation rates, unemployment rates, median income, and occupational status. Chapter III analyzes female labor supply. Chapters IV and V compare occupational achievement among males and females in the ethnic groups. Findings indicated that low occupational achievement results from low quality of education and labor market discrimination. Chapter VI examines differences in annual male earnings among recent immigrants, earlier immigrants, second-generation workers, and natives. (DB)

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FINAL REPORT

ETHNIC MINORITIES IN AMERICAN LABOR MARKETS

National Institute of Education Project No. 4-0612

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CHAPTER 1

Summary of Findings

This study will examine several aspects of the economic status of nine ethnic groups: blacks, American Indians, Chicanos, Puerto Ricans, Cubans, Japanese, Chinese, Filipinos, and non-Spanish whites. Chapter 2 briefly describes each group's demographic and economic characteristics. Chapter 3 analyzes female labor supply. Chapters 4 and 5 discuss female and male labor market achievement, and Chapter 6 examines the change in male earnings for succeeding generations.

Economic differences among these nine ethnic groups are interesting for two reasons. First, they are not artificial demographic categories. These groups constitute well-defined communities, usually with a strong sense of identity, strong cohesion, shared customs and traditions, and growing political power. Unfortunately, most of them have incomes and occupational status far below the national average. These large differences are cause for concern. In order to reduce or eliminate them, we must examine the groups separately. Policies which may help blacks may not be very effective in helping Indians or Chicanos. Therefore, knowing the economic positions of the nine groups, and understanding what affects their achievement, are interesting in their own right.

A second reason for studying these groups is to gain insights into how cultural factors affect economic behavior. In much of the enormous literature comparing whites and blacks, it is often impossible to sort out competing explanations of racial differences. Labor market discrimination, a culture of poverty, rural background, recent migration, low quality education, differences in the role of women, in the strength of extended families, and in a host of other factors have all been cited to explain black-white differences.

These hypotheses can be evaluated by examining the behavior of other ethnic groups, some of whom also suffer labor market discrimination, or have extended families, low quality education, or rural backgrounds. By analyzing the experience of seven very different ethnic groups, we will understand more about the labour supply, occupational achievement, and earnings of our largest two groups, blacks and whites.

Each of the following chapters analyzes a different aspect of economic status. Chapter 2 presents brief descriptions of the eight minority groups based on published data, primarily from the 1970 Census of Population. Topics discussed include the major periods of immigration, current areas of residence within the U.S., education, marital status, fertility, family size, labor force participation rates, unemployment rates, median income, and occupational status.

Chapter 3 analyzes female labor supply in depth. Black-white differences in average hours worked per week are large, but the range among all nine ethnic groups is considerably larger. Including both workers and non-workers, the average number of hours worked per week ranged from 10.3 hours for Puerto Rican women to 20.2 hours for Filipino women. Only half of these differences are explained by racial differences in age, marital status, fertility, education, other family income, location, and nativity. The other half results from differences in the effects of these characteristics.

Earlier studies suggested that black-white differences in labor supply might be explained by differences in marital stability. To explain differences in the effect of marital status, a model was developed which emphasized that the cost of not working for money in the present includes not only foregone present earnings but also the cost in future earnings of lower wage rates

due to lower levels of experience. Ethnic groups with high levels of marital instability will be more likely to work in the future, and therefore lower future wage rates will mean a higher price for not working in the present. Therefore their present as well as future labor supply may be higher than groups with stable marriages.

This hypothesis received support from a comparison of the estimated effects of marital status on labor supply. As predicted, the labor supply of groups with high divorce rates was affected much less by current marital status than the labor supply of groups with low divorce rates. What is true for blacks and whites also seems to be true for Puerto Ricans and Indians, on the one hand, and Japanese, Chineses, and Filipinos on the other. However, comparisons of the effects of fertility and of other family income on labor supply did not support the hypothesis that expectations about future marital instability affect current labor supply. Another finding was that there is a large variation in the effect of education on female labor supply. It is not clear how much of the variation is due to differences in the effect of education on wage rates, differences in the effect of wage rates on labor supply, or differences in some other factor correlated with education.

Chapter 4 uses Duncan codes to compare female occupational achievement among the nine races. White women have the highest status occupations, but Chinese, Filipino, and Japanese women are almost as successful. However, Cubans, Indians, Puerto Ricans, and especially blacks and Chicanos have much lower status occupations. Results of regression analysis suggest that labor market discrimination and low levels and low quality of education are the only important explanations for low racial averages in occupational achievement. Differences in age, marital status, fertility, location, and nativity were not important causes of racial inequality.

The importance of different factors varied among the ethnic groups. Low levels of education were most responsible for explaining the low status occupations of Chicanos and Puerto Ricans, and to a lesser extent of blacks, Cubans, and Indians. Low rewards for additional years of education, experienced by Chinese, Cubans, Puerto Ricans, Chicanos, and Filipinos, are probably the result of language problems and the difficulties of using skills learned in foreign schools in American labor markets. Immigrants of these five groups might benefit especially from adult education courses in English, or in other subjects designed to supplement their foreign education.

Finally, large residual differences in occupational status strongly suggest pervasive occupational discrimination against non-white women. This of course is in addition to the discrimination that all women may face in gaining admission to traditionally male occupations. These residual differences are largest for blacks, but they are also important for Indians, Cubans, Filipinos, and Japanese. Comparisons of wage rates, adjusted for differences in other factors, indicate discrimination against non-white women even more strongly than do the occupation comparisons. Whatever discrimination non-white women suffer in gaining admission to high status occupations is less than the discrimination they encounter when they actually receive their paychecks.

Using a model and techniques similar to those of Chapter 4, Chapter 5 examines earnings differences among men. As with female occupation, white Japanese, and Chinese men are relatively successful, but Puerto Ricans, Chicanos, Indians, Filipinos, and Cubans have many of the same problems as blacks. However, the importance of different problems varies among the groups, and some have handicaps that blacks do not face. Government programs designed to help one group may not be very effective in meeting the needs of another group.

For instance, raising levels of schooling to the white average would do little to improve the earnings of Cubans and Filipinos, since they already have almost as much education as whites. However, increased education would be especially helpful to Puerto Rican and Chicano men. Their levels of schooling are dramatically lower than white levels for all age groups. A large percentage of prime age Puerto Rican and Chicano men have so little schooling that they are unlikely to benefit from any other programs until they receive at least a grade school education. Nonvocational adult education is probably a necessary first step in improving the earnings abilities of large numbers of these men.

Moreover, educational disparities are being perpetuated among the current generation. Blacks, Indians, Chicanos, Filipinos, and especially Puerto Ricans, attend college far less often than whites, Cubans, Chinese, and Japanese. Unless these differences are reduced via improved scholarship programs, remedial education, and other encouragement for minorities to continue in school, racial earnings differences based on education differences will continue far into the future.

Low rewards to education for immigrants suggest that special English language classes might be useful for Puerto Rican, Chicano, Cuban, and Filipino immigrants. Other aid to recent immigrants, such as job counseling, help in finding jobs, and perhaps special courses to enable immigrants to adapt their existing training and skills to American conditions would probably ease the transition for Cubans, Chinese, Filipinos and Chicanos in their first years in this country.

Comparisons of earnings differences within and between occupations suggest that occupational discrimination is important in explaining low returns to education and low earnings for blacks, Puerto Ricans, Chicanos,

and Indians. Puerto Ricans and Filipinos, and to a lesser extent blacks, Chicanos, Indians, and Cubans, received lower rewards to experience than did whites. Labor market discrimination may be the cause of this, but if so, it is discrimination within occupations rather than discrimination which excludes these groups from occupations with large possibilities for advancement.

Thus, programs to eliminate occupational discrimination would raise the earnings of Puerto Ricans, Chicanos, and Indians as well as of blacks. They would also increase rewards to education for these groups. However, they would not improve low returns to experience. Additional programs to prevent discrimination in promotions within occupations may be necessary for that. Finally, programs to increase the number of jobs in rural areas would be most effective for Indians. They would also benefit rural blacks and Chicanos.

Chapter 6 concentrates on differences in annual male earnings among recent immigrants, earlier immigrants, second generation workers (natives with at least one foreign parent) and third generation workers (natives with native parents). The results indicate that the speed of acculturation for immigrants is very rapid. Although immigrants earn far less than natives when they first arrive, during their own lifetimes their position improves rapidly. All eight ethnic groups examined show a sharp increase in annual earnings between recent immigrants and those who have been here for more than five years.[1] For six of the eight groups, this difference remains large when age, marital status, and location are held constant, though the increases are somewhat smaller. A further increase in adjusted earnings occurs among

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[1] American Indians were not included in Chapter 6 because too few of them were immigrants.

seven of the eight groups between earlier immigrants and the second generation, that is, the children of immigrants. However, there is a small to moderate decrease in adjusted earnings from the second to the third generation for all five ethnic groups with an identifiable third generation.

Two offsetting factors probably explain this surprising pattern. At first, earnings improve rapidly as immigrants and their children learn to speak good English and as they learn American social and business practises. With succeeding generations, the rate of acculturation declines. Offsetting the effect of acculturation is the higher motivation or intelligence of immigrants. They are clearly more motivated than people from their homelands who did not migrate, as evidenced by their having left. Presumably they are also more motivated than non-migrants in the communities to which they come. Whether the source of these differences in motivation is primarily genetic or environmental, immigrants are probably able to pass some of this on to their children, but over time there is a regression to the mean. During the first two generations, the increase in acculturation is greater than the decrease in motivation, but by the third generation, the reverse is true, and earnings decline.

Several alternative sources of immigrants' lower earnings were examined. Controlling for differences in education accounted for only a small part of the differences among generations in earnings. However, immigrants did not benefit as much from additional schooling as did natives, perhaps because their foreign education was of lower quality or at least less useful than American education. Immigrants of most of the groups did not have significantly lower occupational status than natives, but holding occupation constant did little to decrease the differences in earnings.

That is, almost all of the differences between generations in earnings occurred within, rather than between, occupations.

Since each chapter covers a very different aspect of economic status, reviews of previous work are presented separately below. No attempt has been made to integrate the different topics because they are all interesting in their own right. However, a joint list of references is included at the end of the report.

CHAPTER 2

Description of the Groups

2.1 Introduction

The groups discussed in this report vary not only in size, but also in their social and economic position in this country. Some of the minority groups are much worse off than the white majority, but others are significantly better off, in terms of family income, earnings, education, and occupational status. There are even surprisingly large differences in age, marital status, number of children, and family size. While large percentages of some groups are recent immigrants, and others are largely the children or grandchildren of immigrants, still others have been here for generations.

Chapters 3, 4, 5, and 6 below present additional information that bears on their respective topics. This chapter is intended to provide a general description of the nine ethnic groups whose labor supply, occupational achievement, wage rates, and annual earnings will be analyzed in the later chapters.

The characteristics of each group are discussed in separate sections, but the data are presented in joint tables by subject. Table 2.1 presents demographic characteristics of the groups, including population, age, education, marital status, and fertility. Table 2.2 presents economic characteristics including labor force participation rates, unemployment rates, occupational distributions, and income levels. Table 2.3 presents immigration statistics for groups with less than 90 percent natives, and Table 2.4 offers data on geographical concentration.

2.2 Blacks

Blacks are America's largest ethnic minority group. In 1970 the 22.5 million blacks constituted over 11 percent of the population of the U.S. Though once concentrated in the rural South, migrations to the urban North

TABLE 2.1

DEMOGRAPHIC CHARACTERISTICS

	Whites	Blacks	American Indians	Puerto Ricans	Chicanos	Cubans	Japanese	Chinese	Filipinos
Population (men and women)	178,107,190	22,549,815	763,594	1,391,463	4,532,435	544,600	588,324	431,583	336,731
Percent Urban (women)	74.2%	84.2%	49.9%	98.3%	86.8%	98.6%	89.7%	96.8%	89.2%
Percent Native Born	95.1%	98.9%	98.1	100.0%	82.0%	18.4%	79.1%	52.9%	46.9%
Median Age (women)	30.2	23.6	20.9	21.2	19.6	32.5	34.3	25.8	24.5
Median Years of School Completed	12.1	9.8	9.8	8.6	8.1	10.3	12.5	12.4	12.2
Percent enrolled in School, 18-24(women)	27.6%	22.7%	20.7%	14.3%	17.5%	29.1	48.4%	58.2%	23.2%
Marital Status (women 20-64)									
Married, Husband Present	74.8%	52.9%	64.7%	62.4%	69.9%	67.9	74.2%	69.4%	64.7%
Never Married	10.9%	15.7%	13.3%	11.1%	13.5%	12.5	14.7%	20.0%	21.7%
Widowed	6.0%	9.8%	6.9%	4.7%	4.9%	5.6	3.9%	4.9%	2.9%
Divorced, Separated, or Married Spouse Absent	8.3%	21.6%	15.1%	21.8%	11.7%	14.0	7.2%	5.7%	10.7%
Children per 1000 ever married (women 35-44)	3,047	3,817	4,554	3,503	4,530	2,064	2,301	3,005	3,300
Average Family Size	3.51	4.15	4.46	4.15	4.64	3.74	3.67	4.01	4.23

Sources: 1970 Census of Population, Vol. 1, Part 1, Sec. 1; Vol. 1, Part 1, Sec. 2; PC(2)-1B; PC(2)-1F; PC(2)-1C; PC(2)-1E; and PC(2)-1G.

TABLE 2.2

ECONOMIC CHARACTERISTICS

	Whites	Blacks	American Indians	Puerto Ricans	Chicanos	Cubans	Japanese	Chinese	Filipinos
Median Family Income	$9,957	$6,063	$5,832	$6,115	$6,962	$8,529	$12,515	$10,610	$9,318
Percent of Families with 2+ Workers	50.8%	51.7%	47.1%	35.6%	50.2%	60.2%	59.8%	59.0%	60.8%
Men									
Percent in Labor Force (16+)	77.4%	69.8%	63.4%	75.5%	77.4%	83.7%	79.3%	73.2%	79.0%
Unemployment Rate	3.6%	6.3%	11.6%	6.2%	6.1%	4.3%	2.0%	3.0%	4.7%
Median Income of Men with Income	$6,772	$4,158	$3,509	$5,105	$4,735	$5,532	$7,574	$ 5,223	$5,019
Women									
Percent in Labor Force	40.6%	47.5%	35.3%	31.6%	36.4%	51.0%	49.4%	49.5%	55.2%
Percent of Wives Employed	38.3%	47.7%	33.5%	27.5%	29.4%	48.7%	50.6%	47.5%	46.1%
Unemployment Rate	4.8%	7.7%	10.2%	8.3%	8.9%	7.3%	3.0%	3.7%	4.7%
Median Income of Women With Income	$2,374	$2,041	$1,697	$2,938	$1,892	$2,825	$3,236	$ 2,686	$3,513
Percent Professionals and Managers	20%	13%	13%	8.5%	8.3%	9.8%	20%	23%	34%
Percent Service and Private Household Workers	16%	43%	33%	14%	26%	12%	21%	15%	20%

Sources: See Table 2.1

TABLE 2.3

Period of Immigration, 1820-1973

	Chicanos	Cubans*	Japanese	Chinese	Filipinos*
1820-1850	1%		-	-	
1851-1890	1%		1%	48%	
1891-1910	3%		41%	5%	
1911-1930	38%		31%	8%	
1931-1950	4%		1%	3%	
1951-1960	18%	23%	12%	6%	10%
1961-1970	25%	59%	10%	20%	48%
1971-1973	10%	18%	4%	10%	42%
Total:	100%	100%	100%	100%	100%

* Before 1951 immigrants from Cuba and the Philippines were not classified separately.

Sources: Historical Statistics of the U.S., Series C 103, 104, and 108; and Statistical Abstract of the U.S. 1974, p. 99.

TABLE 2.4

Geographical Distribution of Concentrated Groups

(Percent)

	Chicano	Puerto Rican	Cuban	Japanese	Chinese	Filipino
New York	0.6%*	68%	23%	3.4%	19%	4.2%
Miami	0.3%*	1.3%	40%	**	**	**
Chicago	3.2%	6.3%	3.8%	2.7%	2.8%	3.4%
California	41%	3.6%	8.7%	36%	39%	40%
Los Angeles	18%	1.6%	7.2%	18%	9.6%	9.5%
San Francisco	2.6%	**	**	5.7%	20%	13%
Hawaii	0.0%	0.6%	0.0%	37%	12%	28%

* Estimated from state data
** Not available, but less than 1 percent
Sources: See Table 2.1

and West which started around World War I have made blacks less rural than the population as a whole. As Table 2.1 indicates, in 1970, 74 percent of whites were urban, compared to 84 percent of blacks.

Virtually all recent migration of blacks has been within the U.S. Almost 99 percent of blacks were native born in 1970, a higher percentage than among whites, and even higher than among American Indians, the oldest Americans. However, in the last few years there has been some immigration of blacks from the West Indies and sub-Sahara Africa. Between 1963 and 1972 there were 48,000 immigrants to the U.S. from Haiti, and 96,000 from Jamaica.[1] Although there are no published data on the races of these immigrants, it is likely that virtually all the immigrants from those countries are considered black in this country. Tens of thousands of other immigrants from Africa and the West Indies may also have been black, but data are not adequately broken down by country to permit an estimate. Immigration at these levels will not change the composition of the black population substantially, but it will decrease the percentage of the native born by several points in the next few decades, and add an unusual flavor to the black community.

Many of the statistics of blacks are well known, and are only presented here for easy comparison with the smaller minority groups. Less than 53 percent of black women between 20 and 64 were married and living with their husbands in 1970 versus almost 75 percent of white women the same age. Larger percentages of blacks were divorced or separated, and larger percentages were also widowed or never married. Higher widowhood is explained by higher mortality rates and lower life expectancies for black men. Part of the higher percentage of never married women is the result

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[1] U.S. Immigration and Naturalization Service, Annual Report, 1972, Table 14.

of lower age. Median age of all white women was 30.2 years, but the median for black women was only 23.6 years. Black never married women between 35 and 44, near or at the end of their childbearing period, had an average of 3.8 children, compared to 3.0 children for similar white women.

By virtually all measures of economic status, achievement, and well being, blacks are worse off than whites. Unemployment rates for both men and women are typically more than 50 percent higher for blacks, and mean and median incomes are considerably lower. The percentages of high income, high status professionals and managers are lower among blacks, and the percentages of low status, low income service and private household workers are higher. As a result of these varied factors, black family income is only slightly over 60 percent of white family income, measured both by mean and by median.

2.3 American Indians

Ironically, the group usually thought of as the oldest and original Americans does not have the highest percentage of native born. Almost two percent of American Indians are foreign born, slightly higher than the percentage of foreign born blacks. Virtually all of these immigrant native Americans were born in Canada or Mexico, about half of them in tribes which live on both sides of the borders.[2]

Another surprising statistic on American Indians concerns their population. In 1960, 524,000 people were recorded by the Census as Indians. In 1970, 793,000 identified themselves as Indians, an increase of 261,000. Yet only 215,000 Indians were 10 years of age or less in 1970. Since only a small fraction of Indians are immigrants, this increase is larger than

[2]See American Indians, 1970 Census of Population Subject Report PC(2)-1F, Table 16, p. 188.

the total number of births during the decade. Even if no Indians died between 1960 and 1970, the Indian population could not have risen this fast.

The explanation for this anomaly is that attitudes toward being Indian changed. Individuals determine their own race for Census purposes, and many people with both Indian and white or black ancestors changed their identity to Indian during the decade. Greater pride in their Indian heritage and new identification with Indian political and social movements led many people to change their response on the Census forms.

Although much of the statistical growth of the Indian population is not real, much of it is. Indian birth rates are the highest of all the groups studied in this report. With 4.6 children, ever married Indian women between 35 and 44 had an average of over 1.5 children more than similar white women. Another aspect of the high birth rate is the very low median age of all Indian women, at 19.6 almost 11 years younger than white women. This higher birth rate occurs in spite of the fact that only 65 percent of Indian women are married and living with their husbands, compared to 75 percent of white women. Some of this difference in marital status is the result of younger age and greater percentage never married among the Indians, but most of it is the result of marriages broken by death, divorce, or separation. Twenty-two percent of Indian women between 20 and 64 were widowed, divorced, or separated, but only 14 percent of white women.

In one very important way Indians are different from the rest of the population--28 percent of them live on reservations which are communally owned and not subject to sale. However, the percentage living on reservations varies considerably even among the larger tribes, from 5.5 percent among the 66,000 member Cherokee to 62 percent among the 97,000 member Navajo.[3] Even when Indians do not live on officially recognized reservations, they often live in similarly isolated rural communities. While only a

[3]Ibid, Table 16, p. 188.

quarter of white women lived in rural areas in 1970, exactly half of Indian women did.

This isolation in rural areas far from good jobs in large cities may explain part of the desperate economic conditions which Indians suffer. During 1970, a year when the white male unemployment rate was only 3.6 percent, the rate for Indian men was an astounding 11.6 percent. For rural Indian men the rate was almost 14 percent.[4] These figures do not include unemployment hidden by government definitions of participation in the labor force. Only 63 percent of Indian men 16 and over were either working or actively looking for work in 1970. Most of the others had given up. In rural areas, only 56 percent were recorded as workers, either employed or unemployed. Thus the full percentage of unemployed Indian men, those not working who would take a job if one existed, is probably about 30 percent for all men and over 40 percent for rural men. By contrast, 77 percent of white men were in the labor force, and most of the rest were either in school or retired.

Differences in employment rates are only one aspect of the disparity between white and Indian men. Educational and occupational differences were also dramatic. Without elaborating on these non-labor supply differences, the end result is that the median income of Indian men receiving incomes was $3509, was only 53 percent of white male median income, and the lowest of all the groups.

Differences between white and Indian women were only slightly smaller than between men. White and Indian unemployment rates were 4.8 percent and 10.2 percent respectively. When Indian women were able to find work, they were far more likely to have menial jobs than would white women. Only nine percent of Indian women worked as professionals and managers, while 23 percent were service and private household workers. The comparable figures for

[4] Ibid, Table 6, p. 63.

white women were 16 percent and 14 percent respectively. Similarly, median income for Indian women with income was only $1697, but for white women $2374.

Part of these differences in occupational status and income is the result of unequal schooling earlier in the lives of these women. Median education for Indians 25 and over was 9.8 years, for whites 12.1 years. These differences persist in the younger generations as well. While 28 percent of white women between 18 and 24 were enrolled in school, only 21 percent of Indian women were. Thus, whatever other improvements take place in factors that might improve the relative status of Indian women, even the youngest adults of today, will carry with them a disadvantage for the rest of their lives.

2.4 Chicanos

After blacks, the largest "minority" ethnic group in the U.S. is the Chicanos, with a population in 1970 of 4.5 million. Unlike blacks and Indians but like most of the other groups studied in this report, Chicanos are quite concentrated in certain states and metropolitan areas. Over 18 percent of all Chicanos live in the Los Angeles SMSA, with an additional five percent in the two other SMSA's of the Los Angeles basin, San Bernadino and Anaheim.[5] The San Francisco Bay area contains another five percent. Altogether, California is home to 41 percent of all Chicanos.

The other state with a large Chicano population is Texas, with 36 percent. San Antonio alone has almost 300,000, or 6.5 percent of all Chicanos. The majority of Chicanos in Texas live in metropolitan areas of various sizes, but 17 percent of them are rural. The percentage rural for the nation as a whole is 13 percent. Although most of the ethnic groups studied in this report are too small to constitute a sizeable percentage of the large metropolitan areas where they tend to live, Chicanos do dominate several middle-sized cities, especially along the Mexican border in the Rio Grande Valley.

[5] All geographical statistics on Chicanos are from U.S. 1970 Census of Population, PC(2)-1C, Tables 1 and 13, pp. 2 and 150-154.

For instance, 49 percent of El Paso's 359,000 inhabitants are Chicanos, and 34 percent of San Antonio's 864,000 inhabitants. Even in the enormous Los Angeles SMSA, the second largest in the country, almost 12 percent of the population is Chicano.

Although there were a few Chicanos in the Southwest when the U.S. took that territory from Mexico, the vast majority of the families of the people who identify themselves as Mexicans or Chicanos have immigrated more recently. In 1970, 30 percent of Chicanos indicated that they were foreign born, and most of the rest were the children or grandchildren of immigrants. Out of a total of almost 1.8 million recorded immigrants from Mexico since 1820, less than two percent came before 1900. As shown in Table 2.3, 38 percent of all Chicano immigrants arrived in this country between 1911 and 1930, and 53 percent have come since 1951.[6] Thus Chicano immigration is far more recent than most of the immigration from Europe, and more comparable in timing to the influx from Puerto Rico than from Italy.

Even after leaving rural Mexico to live in the cities of the Southwest, Chicanos have continued to have very high birth rates. The average of 4.5 children per ever married Chicano woman between 35 and 44 is only slightly lower than the average for Indians, and much higher than the average for all ever married women that age. As a result, the median age of Chicano women is only 19.6 years, the lowest of any of the groups in this study.

Partly because they are younger, Chicano women are more likely to be never married and less likely to be widowed than white women. However, they are considerably more likely to be divorced or separated. The

[6] Because of the long border with Mexico, the number and percentage of unrecorded immigrants among Chicanos is far higher than among other immigrant groups. However, the pattern of unrecorded immigration is likely to be similar to the pattern of recorded immigration.

percentage of Chicano women who were married, spouse present in 1970 was 70 percent versus 75 percent of all white women. This percentage of women living with their husbands is considerably higher than for the other groups at the bottom of the social ladder, including especially blacks but also Puerto Ricans and Indians. Thus in spite of economic and social adversity, Chicanos have been more successful in preserving their families than have these other groups.

Although better off then Indians, Chicanos are very definitely at the bottom of the American economy. The male and female unemployment rates were 6.1 percent and 8.9 percent, 70 percent and 85 percent respectively above the white rates. At $4735, Chicano male median income was higher than for blacks or Indians, but still only 70 percent of white male median income. Because fewer Chicano women worked than white women, and when they did for fewer weeks per year, the comparison of female median income is not as clear an indication of economic status. However, Chicano female median income was less than 80 percent of median income for white women. A clearer indication of relative status comes from statistics on occupation. Only six percent of working Chicano women were professionals or managers in 1970, but 19 percent were service or private household workers. Sixteen percent of white women were professionals or managers, and 14 percent were service or private household workers.

Low as they are, Chicano incomes are higher than their relative education might lead one to expect. Of all the groups in this study, Chicanos have the lowest median years of school completed, only 8.1. This is four full years less than the median for whites, and more than one-and-a-half years less than the black and Indian medians. Moreover, the relative position of Chicanos is probably not improving. Only 17.5 percent

of Chicano women between 18 and 24 were enrolled in school in 1970, 10 percentage points less than white women, and five points less than black women.

2.5 Puerto Ricans

The 1.4 million Puerto Ricans living in the United States are the most geographically concentrated of the ethnic groups in this study. Fifty-nine percent live in New York City, and an additional nine percent live in other parts of the greater New York area, including Newark, Jersey City, and Patterson.[7] Another six percent live in Chicago, and three percent in Philadelphia, with the remainder in large cities mainly in the Northeast. Ninety-four percent live in metropolitan areas, and only two percent are rural. Thus, few places in the country have large communities of both Chicanos and Puerto Ricans. Chicago and Los Angeles are the only cities with more than a few thousand of both groups.

Puerto Ricans are U.S. citizens whether they are born on the mainland or in Puerto Rico, and thus are virtually 100 percent native born. However, only nine percent of Puerto Ricans 18 or over in the U.S. were born on the mainland, though 42 percent of all U.S. Puerto Ricans of all ages were. In the remainder of this report, "native born" for Puerto Ricans will be used to mean born on the mainland.

Perhaps because of their unusual pattern of migration, with continual travel between the mainland and the island, several demographic characteristics for Puerto Ricans are different from those of the other groups. Thus the median age of Puerto Rican women is 21.2 years, nine years younger than whites, two and a half years younger than blacks, but one and a half years older than Chicanos. Generally a low median age indicates a high birth rate, but with an average of 3.5 children, ever married Puerto Rican women between 35 and 44 have fewer children than both Chicanos and blacks. This is half

[7] 1970 Census of Population, PC(2)-1E, Tables 11 and 12.

a child more than similar white women, not enough to account for the difference in median age. Relative fertility for the four groups is the same among ever married women 25 to 34. The median age of Puerto Rican women is probably low because of fewer than normal numbers of older women, who remain in Puerto Rico when their adult children move to the mainland. Only 2.4 percent of Puerto Ricans in the U.S. are over 65, versus 6.9 percent of blacks and 10.3 percent of whites. The percentages of these groups under 18 are 46 percent for Puerto Ricans, 42 percent for blacks, and 33 percent for whites. These latter differences are due to differences in birth rates rather than in migration rates.

Marital status also reflects the pattern of migration. The percentage of Puerto Rican women between 20 and 64 who are divorced, separated, or married but not living with their husbands, is the highest of any of the groups, at almost 22 percent, higher even than among blacks. Sixty-two percent of Puerto Rican women between 20 and 64 were married, spouse present, a figure roughly halfway between whites and blacks. Because of the absence of older women, the percentage of widowed Puerto Rican woman is quite low, less than half the percentage among blacks and slightly lower than among whites. The percentage never married is slightly higher than among whites.

In spite of the low percentage of Puerto Rican women who were supported by husbands, less than 32 percent of them were in the labor force, the lowest percentage of any of the groups in this study. Among wives and among wives with children under six, the labor force participation rates of Puerto Rican women were likewise the lowest of all the groups. These low participation rates are not the result of the high economic position of Puerto Rican men.

In 1970 the male unemployment rate was 3.6 percent for whites, 6.2 percent for Puerto Ricans, and 6.3 percent for blacks. Puerto Rican male median income of $5105 was almost $1000 greater than black median income, but still over $1700 less than white male median income.

Nor were the low female participation rates the result of poor pay for Puerto Rican women. Among women who received any income at all during 1970, the median was $2938 for Puerto Ricans, $2374 for whites, and $2041 for blacks. This high relative income for Puerto Ricans is surprising indeed, since the number of weeks worked per year was roughly the same for all three groups. The number of hours worked per week was, if anything, probably lower for Puerto Rican women.

Differences in occupation and education also do not explain the relatively high incomes of Puerto Rican women. Only seven percent of them were professionals or managers, versus 10 percent of black women and 16 percent of white women. Puerto Ricans also have less education, with median schooling of 8.6 years versus 9.8 for blacks and 12.1 for whites. Moreover, this gap is probably widening among the current generation. Only 14 percent of Puerto Rican women between 18 and 24 were in school in 1970, but 23 percent of black women and 28 percent of white women in those ages were.

2.6 Cubans

The vast majority of Cubans in the United States have come here since the revolution in their country. Before 1951, immigration statistics were not kept separately for Cubans, but between then and 1973 there have been 350,000 immigrants. Of these, 59 percent came between 1961 and 1970, and an additional 18 percent entered during 1971-73. The remaining 23 percent came before 1961. Thus, Cuba's proximity and close economic ties with the U.S. before the revolution resulted in some immigration in the 1950's, but the

earlier trickle changed into a flood in the 1960's. The present rate of immigration, very sensitive to political factors, is around 20,000 per year.

Because Miami was the closest large city, it became the center of the Cuban community here. Forty percent of Cubans live in Miami SMSA. Another 23 percent live in and around New York, and seven percent are in Los Angeles. Like the other ethnic groups who have come to the U.S. recently from overseas, almost all Cubans live in large cities. Less than two percent live in rural areas, and the percentage living in small towns or cities is not much higher.

Because Cuban refugees came from the urban upper and middle classes, their social and economic behavior is closer in many respects to that of native urban Americans than to other Latin immigrants from poor rural areas. With an average education of 10.3 years, they have considerably more schooling than Chicanos or Puerto Ricans, though still less than non-Spanish whites. However, the current generation of Cubans will be slightly more educated than whites, since 29 percent of Cuban women 18 to 24 are enrolled in school, compared to 28 percent of whites.

In terms of fertility, Cubans also act like middle class urban natives and unlike other Latin immigrants. The average ever married Cuban woman 35 to 44 has had only 2.1 children, the lowest of any group in this study. This is less than half as many as Chicanos, and a third lower than whites. However, immigration has been as hard on Cuban marriages as on those of other Latins. Fourteen percent of Cuban women 20 to 64 were divorced, separated, or absent from their husbands, a lower percentage than for blacks and Puerto Ricans, but higher than Chicanos and whites. In spite of relatively high average age, only 5.6 percent of these Cuban women were widows. Sixty-eight percent were married and living with their husbands and 12.5 percent had never married.

Cuban median family income of $8529 was below those of whites and Asians, but considerably above the incomes of the other four groups in this study. Part of the explanation lies in the high percentage of families with two or more workers, 60 percent. Labor force participation rates for men (84 percent) and for women (51 percent) were the highest and second highest of the nine groups. The male unemployment rate of 4.3 percent was closer to the white rate of 3.6 percent than to the rates of blacks and other Latins, but the Cuban female unemployment rate of 7.3 percent was almost as high as the black female rate.

The relative economic positions of Cubans is also ambiguous according to other measures. Male median income lay between white levels and those of Puerto Rican and Chicanos, but Cuban female median income was much higher than white, black or Chicano female median income. The percentage of Cuban women who were professionals or managers is less than half the white percentage, though the percentage of Cuban women who were service or private household workers was the lowest of the nine groups.

2.7 Japanese, Chinese, and Filipinos

The Asians in this country share not only similar ancestry, but other characteristics as well. In several important respects they are similar to each other, quite different from the other minority ethnic groups, and somewhat different from the majority white population. For that reason, they will be discussed together in one section, to facilitate comparisons with one another as well as with the non-Asian groups.

The largest of the Asian groups is the Japanese, with a population in 1970 of 588,000. Almost 80 percent were native born, a considerably higher percentage than for Chinese and Filipinos. Table 2.3 indicates that there have been two important periods of Japanese immigration. Out

of a total of 377,000 Japanese immigrants between 1820 and 1973, 68 percent came between 1900 and 1924, when new immigration laws drastically reduced immigration from all countries outside northern Europe. Another group of Japanese immigrants, many of them brides of American soldiers stationed in Japan, have arrived since the Korean War.[8] Twenty-six percent of all Japanese immigrants have come here since 1952. Only six percent of Japanese immigrants arrived outside these two periods.

Chinese have been coming to the U.S. by the thousands since as early as 1854, and the stream of immigrants has been much less concentrated than the flow from Japan. However, as with the Japanese, there have been two dominant periods of Chinese immigration, one at the present time. Out of a total of 623,000 immigrants between 1820 and 1973, almost 20 percent came during the peak decade so far, 1871 to 1880. This is far less than the 34 percent of Japanese arriving during their peak decade from 1901 to 1910. However, the entire early period of Chinese immigration, from its beginning in 1854 to its end with the first restrictive immigration laws in 1882 included 46 percent of all Chinese immigrants.

Current Chinese immigration is near its all time peak. The number of immigrants between 1961 and 1970 was barely below the earlier peak, and the percentage of immigrants from 1971 to 1973 was almost 10 percent of the total for all years. If this rate continues for the rest of the decade, the percentage of Chinese coming to the U.S. during the 1970's will far

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[8] See 1970 Census of Population, PC(2)-1G, Table 2. The number of Japanese women between 35 and 44 living in the South is much higher than for other age groups or for men the same age. This bulge is similar but less pronounced in other regions of the country where more Japanese couples have settled and where the concentration of Korean War army veterans is probably less.

exceed the earlier levels. In 1970, 47 percent of Chinese were foreign born, and the percentage is rising.

Until recently, the typical pattern of immigration was for men to outnumber women during the early years. As the men established themselves economically, they often intermarried with the native population, or sent back to their homelands for brides. They then proceeded to have many children, so that the population of most ethnic groups in the U.S. far exceeds the original number of immigrants. However, for the Chinese, this has not been the case. Originally, the ratio of men to women was especially high among the Chinese. Then, by the time they began to prosper, exclusionary laws made it very difficult for them to bring in Chinese brides. Cultural differences and unusually strong racism against them kept intermarriage far below the levels of other immigrant groups.

The result has been that, unlike virtually all other groups, Chinese immigrants have not reproduced themselves. The total number of immigrants is almost half again as much as the current population of 432,000. Eliminating recent immigrants from this calculation makes the disparity even greater. The number of Chinese in the U.S. declined from 107,000 in 1890 to 78,000 in 1940.

Separate immigration statistics were not kept for Filipinos prior to 1951. However, the number of immigrants between 1951 and 1973 was 240,000, compared to a total population in 1970 of 337,000. Since the elimination of racial restrictions from the immigration laws in 1965, the flow of immigrants has increased dramatically. Thirty-seven percent of the total number have come between 1971 and 1973, while less than eight percent came between 1951 and 1960. In 1970, only 47 percent of Filipinos were native

born, and 26 percent of 1970 residents lived outside the U.S. five years earlier. Eighteen percent of Chinese reported in 1970 that they lived abroad in 1965, and eight percent of Japanese.

Another way in which the Asian groups are similar to one another is their geographic concentration in Hawaii and California. Table 2.4 presents the percentages of the three groups living in selected areas. The Japanese and Filipinos especially are concentrated in Hawaii, where 37 percent and 28 percent respectively live. In Honolulu alone live 29 percent of all Japanese and 20 percent of all Filipinos in the U.S. The other large concentration of Japanese is in Los Angeles, where 18 percent live, with an additional six percent in San Francisco. No other metropolitan area contains as many as three percent of the Japanese, though there are over 10,000 in New York, San Jose, Chicago, Seattle, Sacramento, and Anaheim. Over 10 percent of Japanese are rural, mostly in Hawaii and to a lesser extent in California.

Almost a third of the Filipinos in Hawaii are rural, far higher than the 11 percent rural in the U.S. as a whole. The 40 percent of Filipinos who live in California are mostly in San Francisco (13 percent) and Los Angeles (10 percent). The 31 percent who live outside California and Hawaii are scattered in the same large cities as the Japanese, in roughly the same percentages.

Although the Chinese are also concentrated in California and Hawaii, far greater numbers live in New York. The largest Chinese community in the U.S. is in the San Francisco area with 20 percent, but another 18 percent live in and around New York City. Eleven percent live in Honolulu, and another 10 percent live in Los Angeles. All of these metropolitan

areas have over 40,000 Chinese, while Boston, Chicago, and Sacramento have between 10,000 and 13,000, or between two and three percent of all Chinese in the country. Unlike the other two Asian groups, very few Chinese live outside large cities. Only three percent are rural.

The demographic characteristics of the three Asian groups are very much affected by their different patterns of immigration. The much lower level of recent immigration among the Japanese makes their median age and marital distribution more similar to that of whites, and quite different from Chinese and Filipinos. For instance, the median age of Japanese women is 34 years, the oldest of all the groups and four years older than the median age of white women. The main reason for the high median age is the lower birth rate among the Japanese. Ever married Japanese women between 35 and 44 had an average of only 2.3 children, compared to 3.0 children for white women. Moreover, a larger percentage of the Japanese were never married, 15 percent of women between 20 and 64. By contrast, 11 percent of white women between 20 and 64 were never married. The percentages of the two groups who were currently living with their husbands were 74 percent for the Japanese and 75 percent for the whites.

By contrast, the median age of Chinese and Filipino women was 26 years and 25 years respectively. However, the difference between them and white women was not the result of differences in birth rates, since the number of children for women 35 to 44 was 3.0 for Chinese women and 3.3 for Filipino women. The age difference arises from the fact that it is primarily people in their twenties and thirties who immigrate. The generation over forty stays behind, and when the young adults come to the U.S., they soon begin to have children. Thus their age distributions contain fewer middle aged and older people, and more children and young adults than

groups without substantial numbers of immigrants.

Another aspect of the relative youth of the Chinese and Filipino populations is the higher percentage of never married women among them, 20 and 22 percent respectively, about twice the percentage among white women. The percentage of widows, on the other hand, is lower, but on balance fewer Chinese and Filipino women are married, spouse present, only 69 and 65 percent respectively. However, patriarchal extended families are more common among these groups. For all three Asian groups as well as for whites, the percentage of the population living in husband-wife families is between 86 percent and 89 percent. This is considerably higher than for the other groups in this report. Furthermore, in spite of lower birth rates and therefore fewer children, average family size is somewhat larger among all three Asian groups than among whites.

By several measures of economic status, the three Asian groups do at least as well as whites, and often better. It should be noted, however, that the data discussed below are not adjusted for differences in age, location in high cost, high wage areas, or other factors which might contribute to or compensate for differences between the Asians and whites. A fuller discussion of these matters is found below in Chapter 5.

The picture that emerges from the Census statistics confirms the stereotypes of Asians as industrious, stable, and relatively successful. Labor force participation rates for men 16 and over are slightly higher than whites for Japanese and Filipino men, and somewhat lower for Chinese men. The differences that do exist are probably the result of lower median ages and higher rates of college attendance among the Chinese. These rates are in sharp contrast to the rates of blacks and Indians. Even more contrasting

are the Asian unemployment rates. At a time when the white male unemployment rate was 3.6 percent and the black male rate was 6.3 percent, the Japanese rate was only 2.0 percent, and the Chinese rate was 3.0 percent. Filipinos, however, had an unemployment rate of 4.7 percent.

Comparisons of median male income by race suggest that the Asian groups do quite well, but less well than their participation and unemployment rates might suggest. Chinese and Filipino men receive lower wages than do white men, since their median incomes are both about $1500, or about 23 percent, lower than white male median income of $6772. Japanese men, however, had median incomes in 1970 of $7574, $800 higher than white men.

All three groups of Asian women are more successful in the labor market than white women. In terms of labor force participation, unemployment rates, median incomes, occupational distribution, Japanese, Chinese, and Filipino women all exceed white women. The female unemployment rate for whites was 4.8 percent in 1970, but for Japanese it was 3.0 percent, for Chinese 3.7 percent, and for Filipinos, 4.7 percent. Labor force participation rates ranged from 41 percent of white women 16 and over to 49 percent for Japanese women, 50 percent for Chinese women, and 59 percent for Filipino women. There are similar differences, discussed in greater detail in Chapter 3 below, in labor force participation rates of wives and of wives with children under six.

Part of the reason for higher participation among Asian women may be that they are able to find more attractive jobs. Twenty-nine percent of employed Filipino women were professionals or managers, but only 16 percent of employed white women. The percentages for Japanese and Chinese women were 17 percent and 19 percent respectively, slightly higher than for white women. Differences in the percentage of women who were service and private household

workers were much smaller, and not always lowest for the Asians. This group constituted 14 percent of white female workers, 12 percent of Chinese women, 16 percent of Filipino women, and 18 percent of Japanese women. The end result of higher labor force participation, lower unemployment, and higher occupational status is higher incomes. Median female income for women with income for whites in 1970 was $2374, for Chinese, $2686, for Japanese, $3236, and for Filipinos, $3513.

Finally, median family income reflects differences in median male and female incomes, and also a greater number of workers in the typical Asian family. Roughly half of white families have two or more workers, but about 60 percent of Japanese, Chinese, and Filipino families do. The result is that median family income for whites of $9957 is exceeded by the Japanese, where both men and women make more than whites ($12,515), and by the Chinese, where only the women make more ($10,610). The considerably higher income of Filipino women is more than offset by the lower incomes of the males, relative to whites, so that their median family income of $9318 is $600 lower than median white family income.

The economic success of the three Asian groups is all the more impressive when one remembers that a very high percentage of the Chinese and Filipino adults are immigrants, and not native English speakers. The percentage native born includes children as well as adult workers, and thus does not accurately indicate the handicaps that the adults face in job markets. The percentage of Japanese immigrants is much lower than among the other groups, and many of the immigrants are elderly and no longer in the labor force. However, most Japanese adults were put in concentration camps during World War II, had their businesses confiscated, their careers and educations interrupted. Thus all three groups have overcome large obstacles in achieving the success they have realized.

The future of these groups looks even brighter than the present. Median years of school completed for the current population 25 years and older is 12.1 for whites, 12.2 for Filipinos, 12.4 for Chinese, and 12.5 for Japanese. The gap between the Asians and whites is widening for the current generation, at least for the Chinese and Japanese. The percentage of women between 18 and 24 enrolled in school, that is, roughly, the percentage of women attending college, is 28 percent for white women, 23 percent for Filipinos, but 48 percent for Japanese women, and 58 percent for Chinese women. Since most 23 and 24 year olds will have finished college, this means that virtually all Chinese women attend and probably complete college.

CHAPTER 3

Foregone Future Earnings and the Present Labor Supply of White, Black, Indian, Latin, and Asian Women

3.1 Introduction

The large difference in labor force participation rates between black and white women has been analyzed extensively by Cain (1966), Bowen and Finegan (1969), Sweet (1973), and Bell (1974). However, much disagreement still remains. Although some of the labor supply differences can be explained by differences in other family income, marital status, and education, the effects that these variables and others have on labor supply seem to be quite different for blacks and for whites. Matriarchal family structures, differences in child rearing practises, and differences in expectations concerning marital and income stability have all been suggested as the causes of labor supply differences.

This chapter presents findings on differences in female labor supply among whites, blacks, and seven other minority groups: American Indians, Puerto Ricans, Chicanos, Cubans, Japanese, Chinese, and Filipinos. Examining groups with a wide range of family structures and expectations may shed light on whether these factors are important for blacks and whites. In fact, the range of labor force participation rates is much wider than between whites and blacks. Only 33 percent of Puerto Rican women between 18 and 65 were in the labor force during Census Survey Week, 1970, compared with 58 percent of Filipino women. The rates for whites and blacks were 48 percent and 56 percent respectively. If the attitudes and expectations formed by communities rather than by individuals acting alone are important, then the behavior and experiences of communities other than blacks' and whites' may help to understand labor supply among our two largest races.

Furthermore, studying these groups is interesting for its own sake. They constitute well-defined and in some areas large minority groups who

have increasing political power and social awareness but who have received little attention in the economics literature. Several studies of nonwhite, nonblack men, discussed in Chapter 5, have been published. But no analysis at all has been done on nonblack minority women.

The second section of this chapter develops a multi-period model of labor supply similar to work by Ghez and Becker (1974). Certain estimation procedures are discussed in Section 3.3, and the data and some characteristics of the groups are described in Section 3.4. Sections 3.5 and 3.6 present the results, and a brief summary concludes the paper.

3.2 A Model of Labor Supply

In the standard model of family labor supply functions, the household maximizes a utility function with market goods or money income and the leisure time of the household members as arguments, subject to a budget constraint, all in one period. The present model is identical, except that the future as well as the present affects the household's decisions. The utility function is

$$(1) \qquad U = \sum_{t=1}^{T} \frac{U(M_t, X_{1t}, X_{2t}, K_t)}{(1+r)^{t-1}}$$

subject to the budget constraint

$$(2) \qquad M_t - Z_t - w_{1t}(1-X_{1t}) - w_{2t}(1-X_{2t}) =) \quad \text{for } t = 1,\ldots,T.$$

M_t is money income, equal to exogenously determined prices and the bundle of market goods which the household decides to purchase. X_{1t} and X_{2t} are the amounts of time spent by the woman and by all other adults in the household respectively, K_t is a measure of the number and ages of any children, and r

is the rate at which the household discounts the future. In equation (2) Z_t is other family income, and w_{1t} and w_{2t} are wage rates. If we define $L_{it} \equiv 1-X_{it}$, where L_{it} is the amount of time the i^{th} individual spends doing market work in period t, the budget constraint can be rewritten as

$$(3) \qquad M_t - Z_t - w_{1t}L_{1t} - w_{2t}L_{2t} = 0 \qquad \text{for } t = 1,\ldots,T.$$

Differentiating equation (1) subject to equation (3) yields the first-order conditions for utility maximization.

$$(4) \qquad \frac{\partial U}{\partial L_{i1}} = \frac{\partial U_1}{\partial L_{i1}} - \lambda w_{i1}' - \lambda \sum_{t=2}^{T} \frac{L_{it}}{(1+r)^{t-1}} \frac{\partial w_{it}}{\partial L_{i1}} = 0$$

where λ is the Lagrangian multiplier and U_1 is utility in the first period. Since

$$(5) \qquad \frac{\partial U}{\partial M_1} = \lambda,$$

λ can be interpreted as the marginal utility of money. Similarly, the derivative of the constrained utility function with respect to K_1 is

$$(6) \qquad \frac{\partial U}{\partial K_1} = \frac{\partial U_1}{\partial K_1} - \lambda w_{11} \frac{\partial L_{11}}{\partial K_1} - \lambda \sum_{t=2}^{T} \frac{L_{1t}}{(1+r)^{t-1}} \frac{\partial w_{1t}}{\partial L_{11}} \cdot \frac{\partial L_{11}}{\partial K_1} = 0.$$

Several of the assumptions implicit in this model deserve brief mention. First, current labor supply, and thus current leisure, do not affect future utility directily. To the extent that current leisure is used for investments, either in children or in physical or human capital, this assumption will understate the total value of $\partial U/\partial L_{11}$. Second, saving and borrowing are also not possible with this model, and assets are only important implicitly for the unearned income Z which they generate. Third, children only affect the labor supply of their mothers, since $\partial L_{21}/\partial K_1 = 0$. And finally, although

current labor supply affects future wage rates, it has no effect on present wages, since $w_{i1} / L_{i1} = 0$. Thus part-time workers are assumed to receive the same wage rate as full-time workers with similar skills, while experience explicitly affects future wage rates.

In one-period labor supply models wage rates are exogenous. In this multi-period model, future wages depend on current labor supply. However, the return to experience is still exogenous. Therefore we define E the effect of the experience on wage rates

$$(7) \qquad E_i \equiv \frac{\partial w_{it}}{\partial L_{i1}} = f(\text{Education, Race, Age, Sex}) > 0 \qquad \text{for } t > 1.$$

The current wage rates w_{i1} is exogenous, and future wages depend only on present wage rates, the amount of current experience L_{i1}, and the effect of this experience on future wages E_1.

$$(8) \qquad w_{it} = f(w_{i1}, L_{i1}, E_i) \qquad \text{for } t > 1.$$

The system of equations outlined above can be used to derive a set of demand equations for money income and the leisure of the two individuals for all T periods. For the current period, labor supply of the woman is a function of her own current wage, the effect of experience on her future wage, the wage rates of other family members, other family income now and in the future, children now and in the future, and the household's discount rate.

$$(9) \qquad L_{11} = f(w_{11}, E_1, w_{21}, Z_1, Z_t, K_1, K_t, r).$$

The advantage of this model is that it allows us to see explicitly that the cost of present leisure includes not only present foregone money income but also income foregone in the future as the result of decreased wage rates.

The value of leisure at the margin, as shown in equation (4), must equal the current wage times the marginal utility of money plus the discounted marginal utility of the effect of experience on future wage rates times future labor supply. In one-period models, the cost of a unit of leisure rises as the wage rate rises. Here, it also goes up if E, the effect of experience, is large, if L_t the expected future labor supply is large, or if r, the discount rate, is low. Similarly, the effect of children on household utility, and therefore on the labor supply function of the woman, also depends on current wages and future decreased wage rates, as seen in equation (6).

Because households maximize utility over their lifetimes rather than only in the present, women who expect to work a great deal in the future, will find decreasing their labor supply in the present more expensive than otherwise similar women who do not expect to work much in the future. Comparable differences will also exist between women whose wage rates are or are not sensitive to the amount of labor market experience they have. These differences can be expected to increase labor supply among women for whom the total cost of not working is large.

Although equation (9) and the partial derivatives of L_{11} with respect to the independent variables cannot be written explicitly unless equation (1) is fully specified, information about the signs of the partials can be inferred from equations (4) through (7). If, as is usually assumed, leisure is a normal good with a positive income elasticity, then $\partial L_{11}/\partial Z_1 < 0$. From this assumption it also follows that the effect of future income on current labor supply is negative as well. Equation (4) indicates that the higher the level of future labor supply, the greater will be the price of present leisure. A lower future wage rate will increase the price of present leisure by more

for a woman who expects to work a lot in the future than for a woman who expects not to work. Since Z_t will decrease L_{1t} and since the substitution effect is always negative, we can conclude that $\partial L_{11}/\partial Z_t$ is also negative. In general, any factor which will tend to decrease future labor supply will also decrease the price of current leisure, and therefore decrease current labor supply.

Although it is not implicit in consumer demand theory, it is also well documented that the effect of children on current labor supply is negative. Children increase the marginal utility of nonmarket time by more than they increase the marginal utility of income. There, even in one period models, they decrease the amount of labor supplied by their mothers. In our multi-period model, future children will depress future labor supply, which decreases the price of current leisure. Therefore, present labor supply is decreased because of the negative substitution effect.

Because experience increases the price of current leisure, its affect on current labor supply is just the opposite. $\partial L_{11}/\partial E_1$ will be positive. The greater the effect of experience on future wage rates, the more a woman sacrifices by staying home. Women who receive no on-the-job training ($E_1 = 0$) lose only their current wage rate for each hour of leisure, and according to this model do not need to consider the future in deciding on their current mix of leisure and market goods. But women whose wages do increase with experience will sacrifice both potential current earnings and this future increase by staying out of the labor force.

The effect of other family members' wage rates on the woman's labor supply, $\partial L_{11}/\partial w_{21}$, will also be negative. In some cases the leisure of different family members may be complementary goods (for instance, if husband and

wife must both retire to move to Florida). However, for prime age women, whose non-market time includes more work than real consumption, it seems plausible to assume that they are substitutes. Therefore an increase in the price of the husband's leisure will induce the household to substitute the wife's leisure for the husband's leisure, and the cross substitution effect will be positive (negative on labor supply). By assumption, the income effect of an increase in w_{21} on labor supply is also negative, so $\partial L_{11}/\partial w_{21}$ is negative. The sign of the own wage effect $\partial L_{11}/\partial w_{11}$, is indeterminate. The income effect will tend to increase the demand for leisure and decrease labor supply. But the substitution effect will work in the opposite direction. It is unclear a priori which effect will be larger, but previous evidence indicates that, especially for women, the substitution effect is larger and $\partial L_{11}/\partial w_{11}$ is positive.

The importance of considering the effect of expectations about future labor supply on current labor supply depends on the size of the effect of experience on future earnings. If this effect is small, then the future does not matter. However, if there is a large penalty attached to dropping out of the labor force temporarily, future expectations are likely to be important in determining women's current labor supply decisions.

Mincer and Polacheck (1974) estimated returns to experience for women with and without children by educational category. They found that wage rates depreciate by 1.1 percent for each year spent out of the labor force for mothers with 8 years of school or less, by 1.4 percent for mothers with 9 to 12 years of school, and by 4.3 percent for mothers with more than high school. Thus the cost of temporarily dropping out of the labor force to raise children is very high for college educated women, but even for women who

never attended high school the loss is considerable. One percent of thirty years' discounted earnings (age 35 to age 65) can easily exceed a quarter of one year's full-time earnings. For college educated women the cost of dropping out of the labor force in terms of foregone future earnings could easily exceed the cost in terms of present earnings.

This does not mean that all groups of women with high values of E will have high current labor supply and low values for $\partial L/\partial K$ or $\partial L/\partial Z$, since such groups may also have high values for $\partial U/\partial K$ and $\partial U/\partial Z$. For instance, Leibowitz (1975) found that $\partial L/\partial K$ was larger for educated women than for poorly educated ones. The former certainly have higher values for E than the latter. Just because the price of leisure is higher for well-educated women does not mean that they will not find it optimal to consume larger amounts of it than women who pay a lower price.

Bowen and Finegan (1969), Cain (1966), Sweet (1973), and Bell (1974) all found a smaller effect of children on the labor supply of black wives than of white wives. Sweet and Bell also found a smaller effect for having been married previously, and Bowen and Finegan found smaller effects for being married currently. All these authors cited greater marital instability among blacks as a possible reason for the lower effects of these variables. In terms of our model, a divorce would mean that future w_2 or Z may be very low compared to current values of w_2 and Z.

Implicit in this explanation is the idea that married black women anticipate in some way that their marriages may not last. Even if an individual married black woman is just as confident of her own marriage lasting as an individual white woman, her expectation of her future labor supply may be formed by her community's expectation and experience. The community's expectations will be formed by the average likelihood of a successful marriage.

Because marriage is a less certain guarantee of future income for a black woman than a white woman, expected future labor supply will be higher, and therefore for presently married black women present labor supply will be higher. Because marriage has less effect on future income for blacks, it may have less effect on their current labor supply.

Similarly, if black mothers anticipate having to work more in the future than white mothers, it will be more expensive for them to stay home to care for their young children. Of course this is also true between well-educated and poorly-educated women, whose human capital depreciates at different rates when they do not work. However, home productivity may also vary with education. There is no reason to assume that it varies by race, other things equal. For black and white mothers whose present characteristics are similar but whose expected future labor supply is different, home productivity will be the same but the price of leisure will be greater for the blacks. Thus it will be rational for the black mother to work more in the present, and for the existence of children to have less effect on her current labor supply.

One way to test this hypothesis is to compare the effect of marital status and the existence of children on the labor supply functions of women from different communities. Expectations about the future are probably formed within racial and ethnic groups, especially for relatively recent immigrants from Latin America and Asia. If groups with high rates of divorce, like blacks, also show small effects for marital status on their labor supply, but groups with stable marriages show a large marital effect, the hypothesis will tend to be confirmed. If there is no relation between marital stability and marital effects on labor supply, the hypothesis can be rejected.

It has also been argued that income instability for black men has increased the labor supply of black women, and reduced the effect of husband's earnings and other family income on the woman's labor supply. Because black women expect that they will have to work to support the family in the future, they are more likely to work in the present, and less likely to be affected by temporary changes in employment or income of their husbands. Of course the fluctuations in the household's income will be greater if the husband leaves altogether than if he is simply unemployed for a short period. But the nature of the effects on black-white differences in labor supply functions is similar.

This hypothesis can also be tested by comparing labor supply functions among different racial and ethnic groups. Groups with very high income instability should have low effects of other family income and husband's wage rate of wife's labor supply, and conversly for groups with stable income. Once again, it is not only the current experience of the individual household which determines its behavior, but also the expectations formed by the average experience of community members. Even longitudinal data on individual households would not provide information of these expectations. For these types of relationships and variables, data on different communities, such as racial and ethnic communities, are especially useful. Therefore we will use the individual's race as a proxy for her expectations about the future. Instead of estimating a function of the form of equation (9), we will estimate

$$(10) \qquad L_{11} = f(w_{11}, w_{21}, Z_1, K_1, \text{Race}).$$

3.3 Estimation Procedure

Several alternative approaches to the estimation of labor supply

functions have been used, and much disagreement remains over the correct choice. First, it is not clear which measure of an individual's labor supply is best, participation in the labor force during the year prior to the survey, weeks worked during that year, hours worked during the week prior to the survey, some function of these measures, or other measures which distinguish between time spent working and time spent unemployed. Garfinkel and Masters (1974) discuss at length the advantages of each measure. The results presented below will be for regressions with hours worked during the week prior to the survey as the dependent variable, but similar results were obtained from regressions with weeks worked and labor force participation as dependent variables. For the present purposes, at any rate, choice of the dependent variable does not seem to affect the results.

The second point of disagreement is whether or not to include non-workers in regressions of hours or weeks worked. Boskin (1973) claims, without elaboration, that including them "records inappropriately high estimates (of coefficients) at the lower bound and inappropriately low estimates at the upper end of the relation." However, Ben-Porath (1971) argues more convincingly that they should be included. An increase in wage rates may result in lower hours or weeks worked by current workers, since the income effect for them may outweigh the substitution effect. For nonworkers, however, the wage increase may be just sufficient to bring them into the labor force. If only the first effect is measured, estimated labor supply functions will bend back sooner than they do in reality. Therefore both workers and nonworkers are included in our regressions.

Another issue is whether to estimate income and substitution parameters directly, or whether to estimate a reduced form with variables that affect both labor supply and wage rates. Hall (1973) and Leibowitz (1975) used a two-

stage procedure for estimating equation (10) in order to obtain estimates of income and substitution parameters. Since wage rates cannot be observed for nonworkers, and since the wage rates and labor supply variables are often measured with errors, they first estimated a wage equation for workers. Then wage rates were imputed to the entire sample, for workers as well as nonworkers. The labor supply function was then estimated. This procedure assumes that the market wage available to nonworkers is the same as the market wage available to workers with similar measured characteristics. In other words, the only difference between workers and nonworkers is the reservation price of their time, and not in the wage rate they could get in the market.

It hardly seems reasonable that supply factors should account for the entire difference between workers and nonworkers, and that demand factors should be entirely unimportant. Since wage rates of nonworkers will probably be lower, this method will tend to produce estimates of substitution effects that are too low.[1] For this reason, and because we are interested in the actual effects of different demographic variables on labor supply, rather than simply in income and substitution elasticities, we will estimate a one-stage regression. The arguments from the wage regression will be included directly in the labor supply regression, and no separate wage coefficient will be estimated.

The wage function implicit in the regressions to be estimated will have the form:

(11) $$w_{11} = f(\text{Educ, Race, Age, South, SMSA, Engl, PNB, NB, Abr}).$$

[1] Because Hall includes potential full-time earnings in his definition of other income, his estimates of income elasticities are also too large.

Educ, Race, and Age are years of school completed, a race or ethnic group variable to be described below, and age, to be included both in years and the square of years. Dummy variables for residents in the South and in metropolitan areas will be included to reflect regional and city size differences in the demand for labor.

The last four variables are designed to reflect differences in labor market productivity, but they may also reflect differences in the degree of discrimination against racial minorities. Engl is a dummy variable which is one for women whose mother tongue is English, zero for women in whose childhood homes other languages were spoken. PNB and NB are dummy variables for having both parents native born and for being native born oneself. Abr is a dummy variable for women who immigrated to the U.S. during the five years preceding the survey. The reference group will be foreign-born women who immigrated prior to 1965.

Finally, I will assume that the labor supply of other family members does not depend on the labor supply of the woman. Numerous studies of married prime age men have shown very low income and substitution effects, and thus very little dependence on their wives' working. If L_2 is independent of L_1, then w_2L_2 is exogenous, and can simply be included in Z. This is the definition of Z used in the regressions analyzed below.

Husbands do have an effect on wives' labor supply beyond their contribution to other family income, however, since most husbands are probably net consumers of household production. Though they produce more than children do, they are not likely to produce as much as they consume. Thus a married will have more demands on her leisure time and higher marginal productivity of leisure than a similar single woman. A measure of marital status (MS)

therefore belongs in a labor supply function.

One additional modification is the inclusion of a variable to identify students. Since the nonmarket activities of students increase their future wage rates and perhaps the marginal utility of their leisure as well, their present leisure is less expensive in terms of our model, and we will expect that $\partial L/\partial student < 0$. The final form to be estimated, therefore, will be

(12) $L_i = f(Z,K,MS, Educ, Race, Age, South, SMSA, Engl, FNB, NB, Abr, Student)$.

Note that Z now includes all family income other than the woman's earnings, and that the labor supply and wage rates of other family members do not appear.

3.4 The Data and Group Characteristics

The data used to estimate this model come from the 15 percent sample of the one in a hundred Public Use Sample of the 1970 Census. In addition to the standard data on age, education, sex, marital status, and number of children, this sample provides detailed information on mother tongue, place of birth of the respondents and their parents, and on what the Census Bureau calls race. Individuals were asked to identify themselves as whites, blacks, American Indians, Japanese, Chinese, Filipinos, Hawaiians, Koreans, Aleuts, Eskimos, or others. People who said they were of mixed parentage were assigned to their father's race. Three ethnic groups not defined as races by the Census Bureau, Puerto Ricans, Chicanos, and Cubans, were identified separately on the basis of the birthplace of the individual or her parents.[2]

Table 3.1 presents measures of labor supply by race or ethnic group for women between 18 and 65 in 1970. To obtain the total number of such women in the U.S., the number of women in the sample should be multiplied by 10,000 for whites, 400 for blacks, and 100 for the other groups. (Whites

[2] Because these three groups were not defined by descent, but only by birthplace of parents, perhaps one or two percent of third generation Puerto Ricans, Cubans, and Chicanos were included with whites. Hawaiians, Koreans, Aleuts, Eskimos, and others were not included in this study, because even in the 1/100 Census sample there were too few such women to analyze their labor supply decisions in detail.

TABLE 3.1

Labor Supply Measures by Race for Women 18-65

	White	Black	Indian	PR	Chicano	Cuban	Japanese	Chinese	Filipino
Labor Force Participation Rate	48%	56%	42%	33%	41%	57%	56%	56%	58%
Hours Worked	15.7	17.5	13.6	10.3	12.9	19.1	18.5	19.1	20.2
Weeks Worked	21.8	24.8	17.9	15.4	17.6	24.5	26.0	25.0	25.4
Number in Sample	4629	13,761	1856	3309	7009	1808	1973	1263	925

Source: Calculated from 1/100 PUS of the 1970 U.S. Census of Population

and blacks were subsampled to reduce computing costs.) As with differences in labor force participation rates mentioned above, differences among Asian and Latin groups in hours worked during the week preceding the Census survey and in weeks worked during 1969 are far larger than the much discussed differences between whites and blacks. The average number of hours worked by the most active group, Filipinos, is almost twice as large as the average of the lowest group, Puerto Ricans. Differences in weeks worked are somewhat smaller, but still far larger than the black-white difference.

Our model suggests that differences among women in education, other family income, number of children, and age will all affect labor supply. Table 3.2 indicates that there are surprisingly large differences among our racial and ethnic groups in these variables. Two groups, Filipinos and Japanese, have more education on average than whites, and three groups, Chicanos, Puerto Ricans, and Indians, have less education than blacks. Blacks have the lowest other family income, and Chinese and Japanese are better off in this respect than whites.

Blacks also have the lowest percentage married spouse present, but that is partly because so many blacks are never married. Puerto Ricans are more likely to be divorced or separated. And all three Asian groups have lower percentages of women divorced or separated than whites. Similar patterns exist for the number of children. Asian women have slightly fewer than white women, who have considerably fewer than blacks, who have considerably fewer than Indian and Chicano women.

The picture of economic and social success of the three Asian groups in comparison not only with other minorities but even with whites, is even more impressive in light of the recent immigration of the Chinese and Fili-

TABLE 3.2

Personal Characteristics by Race

	White	Black	Indian	PR	Chicano	Cuban	Japanese	Chinese	Filipino
Education	11.5	10.0	9.6	8.1	7.6	10.0	12.0	10.9	12.3
Other Family Income	$9067	$5228	$5715	$5983	$6994	$8037	$10,500	$9361	$8206
Number of Children	2.1	2.5	2.8	2.5	3.2	1.6	1.8	1.9	1.9
Marital Status (%)									
Married, Spouse Present	72.3%	50.8%	62.6%	62.1%	68.5%	67.6%	72.4%	67.5%	60.3%
Divorced or Separated	5.9%	16.7%	11.6%	17.8%	8.6%	8.3%	4.4%	2.5%	4.4%
Never Married	14.8%	19.9%	17.0%	13.9%	15.3%	15.6%	17.6%	23.5%	27.1%
Native Born (%)	95%	99%	97%	14%	58%	6%	68%	38%	29%
Students (%) 18-24	28%	23%	21%	14%	18%	29.0%	48%	58%	23%

Sources: Calculated from 1/100 PUS, except last line, from 1970 Census of Population PC(1), Part 1, Section 2, Tape 197, PC(2)-1B Table 3, PC(2)-1E Table 4, PC(2)-1C Table 4, PC(2)-1F Table 3, and PC(2)-1G Tables 3, 18, and 33.

pinos. Only 38 percent of the former and 29 percent of the latter are native born. Although Asian occupational achievement is slightly below that of whites, their wage rates are somewhat higher.[3] Moreover, their prospects for the future seem promising indeed. While 28 percent of white women between 18 and 24 were enrolled in school in 1970, 48 percent of Japanese, 58 percent of Chinese, and 23 percent of Filipinos were.[4]

The situation of Indians, Puerto Ricans, and Chicanos, on the other hand is not very bright. They have low levels of education, low occupational achievement and wage rates, relatively high rates of marital instability, and low family income. By some measures they are worse off than blacks. For instance, the unemployment rate for black women in 1970 was 7.7 percent, but for Puerto Rican, Chicano, and Indian women it was 8.3 percent, 8.9 percent, and 10.2 percent respectively. And if education is any clue to the future, their relative position in society may not improve as fast as the position of blacks: the percentages of young women from these groups who were students were lower than the percentage of black women.

In general, the groups with high labor supply are also the groups with characteristics conducive to working, and vice versa for groups with low labor supply. To see how much of the labor supply differences can be accounted for by differences in characteristics, regressions were run for all groups, weighted to reflect the differing sampling ratios discussed above. Dummy variables were included for each ethnic group except whites, who were the reference group. This procedure constrains the effect of the independent variables to be the same for each group, but it allows us to see how much labor is supplied by women similar in every respect but race.

In regressions using all three labor supply measures as dependent

[3] See Chapter 4 for a fuller description and a discussion of measurement problems.

[4] 1970 Census of Population, Vol. 1, Part 1, Section 1, Table 197 and PC(2)-1G, Tables 3, 18, and 23.

variables, all the standard independent variables had the expected signs and were highly significant. The effects of other family income, number of children, marriage, and being a student are all negative, the effect of age is quadratic, and the effect of education is positive. Also as expected, living in a metropolitan area results in significantly more hours worked. Living in the South is also associated with significantly more hours. None of the variables controlling for place of birth, or mother tongue was significant.[5]

The racial coefficients from a regression with hours worked as the dependent variable are shown in Table 3.3. Although these coefficients are closer than average hours worked by group, unadjusted for differences in the independent variables, most of the differences remain. The range in unadjusted hours was 9.9. The difference between the largest coefficient, for Chinese, and the smallest, for Puerto Ricans, is still 7.6 hours. Whites lie approximately in the middle of both ranges. Many of the coefficients are significantly different from each other, and an F test of the set of racial coefficients is significant at the 1 percent level. Thus differences in current characteristics among groups explain only a small part of their differences in labor supply. The remainder must stem from differences in the way these characteristics affect their labor supply.

3.5 Effect of Marriage and Family

To test the hypotheses discussed in Section I by allowing the effects of the independent variables to differ by race, separate labor supply regressions were run for each of the nine groups. These regressions were identical to the ones for the entire sample of women, except for the omission of the race dummies. Dummy variables on place of birth and mother tongue

[5] These coefficients, plus race coefficients from regressions with weeks worked and participation in the labor force as dependent variables, are available from the author on request.

TABLE 3.3

Other Characteristics

	White	Black	Indian	PR	Chicano	Cuban	Japanese	Chinese	Filipino
Coeffieient from Hours Worked Regression (standard error)	--	1.40 (.19)	-.39 (.42)	-3.10 (.32)	1.14 (.22)	2.46 (.43)	2.05 (.41)	4.48 (.51)	3.12 (.60)
Other Adults/Household	.37	.58	.57	.39	.54	.65	.70	.76	.70
Male Unemployment Rate	3.6%	6.3%	11.6%	6.2%	6.1%	4.3%	2.0%	3.0%	4.7%
Private Household Workers (%)	2.0%	18.0%	6.7%	1.0%	5.5%	1.2%	3.9%	2.0%	2.3%

Source: See Table 3.2

were also omitted when too few observations were available in those categories. Table 3.4 presents the coefficients and standard errors from regressions with hours worked as the dependent variable.

Our model emphasizes that the cost of not working includes lower future wage rates as well as the loss of current earnings. The size of the future loss will depend on the size of expected future labor supply. Married women whose expectations are formed in communities with high divorce rates may expect to work more than similar women in communities with stable marriages. A current marriage may not be as sure a guarantee of future marriage and future other family income for the former women as for the latter. Therefore current leisure will cost them more in terms of future wage rates, and they may work more in the present as well as in the future. If this is so, the effect of marriage will be weaker for groups that have unstable marriages than groups with stable marriages.

The coefficients in Table 3.4 tend to confirm this hypothesis. As reported by previous studies, the effect of marriage is much smaller for black women than for whites, and the percentage of divorced or separated women among ever-married women is much larger for blacks. A married black woman is likely to work only one hour less per week than a similar never-married woman, but a married white woman is likely to work ten hours less. Differences between married and divorced women are also small for blacks but large for whites.

Moreover, a similar pattern exists for the other races. The three Asian groups, with more stable marriages than whites, show a large effect for marriage. Differences between married and never-married women are 7.5 hours, 11.9 hours, and 9.1 hours for Japanese, Chinese, and Filipinos respectively. Differences between married and divorced women are also large

TABLE 3.4

Hours Worked Regressions by Race

Variable	White	Black	Indian	PR	Chicano	Cuban	Jap	Chinese	Fil
Log OFY	-1.78	-1.392	-1.92	- .99	- 1.54	- 1.51	- 1.31	- .84	- 2.03
	(.22)	(.12)	(.33)	(.24)	(.19)	(.37)	(.35)	(.41)	(.41)
EDUC	.82	1.07	1.10	.65	.63	.54	.30	.19	.97
	(.10)	(.05)	(.11)	(.08)	(.05)	(.12)	(.155)	(.117)	(.16)
AGE	1.11	1.41	1.12	1.17	.96	1.66	1.16	1.24	1.53
	(.15)	(.09)	(.24)	(.17)	(.12)	(.26)	(.29)	(.36)	(.37)
AGE^2	- .013	- .017	- .013	- .0127	- .011	- .021	- .011	- .012	- .018
	(.002)	(.001)	(.003)	(.002)	(.001)	(.003)	(.004)	(.004)	(.005)
NUMKIDS	-1.45	-1.00	- .63	-1.63	- .81	- 2.20	- 1.20	- .05	- .80
	(.17)	(.07)	(.19)	(.15)	(.09)	(.34)	(.29)	(.38)	(.36)
SOUTH	1.81	2.46	- .62	.84	- .62	.71	.80	-3.87	- 8.26
	(.66)	(.34)	(1.05)	(1.67)	(2.05)	(.88)	(2.17)	(2.31)	(2.38)
SMSA	.55	.79	1.64	-.36	2.16	4.90	4.33	2.64	3.83
	(.56)	(.37)	(.89)	(1.33)	(.48)	(2.28)	(1.30)	(1.82)	(1.83)
ENGL	- .92	- .43	.97				- 1.56	4.67	- 3.01
	(.85)	(1.29)	(.87)				(1.30)	(2.19)	(2.13)
PNB	.97	2.56					.08	- .62	.66
	(.88)	(1.66)					(1.31)	(1.91)	(2.57)
NB	.94	-6.76		1.74	.74	-2.42	7.14	- 2.70	- 2.72
	(1.40)	(2.19)		(.85)	(.45)	(1.93)	(1.12)	(1.44)	(1.85)
Abroad	- .42	3.39		-1.46	-.59	-.78	- 6.12	- 3.70	- 2.13
	(2.72)	(2.06)		(.89)	(.84)	(.96)	(1.58)	(1.49)	(1.48)
MSP	-10.07	-1.09	-1.31	-8.02	-11.53	-7.49	- 7.50	-11.90	- 9.09
	(.98)	(.50)	(1.38)	(.97)	(.71)	(1.56)	(1.58)	(1.97)	(1.78)
MSA	- 7.86	-2.00	.26	-4.66	8.05	-6.41	.89	-8.54	-10.29
	(2.08)	(.95)	(2.13)	(1.99)	(1.48)	(2.62)	(3.39)	(4.05)	(2.95)
WIDOW	- 2.45	-1.08	-3.92	-7.33	-8.13	-5.48	-3.84	-12.61	- 8.23
	(1.49)	(.71)	(2.24)	(1.77)	(1.14)	(2.55)	(2.65)	(3.37)	(3.85)
D/S	.52	.60	.64	-7.65	-4.43	-3.41	- .19	- 7.68	- 1.81
	(1.40)	(.60)	(1.76)	(1.14)	(.96)	(2.07)	(2.48)	(3.91)	(3.23)
Student	-13.17	-8.11	-5.91	-9.02	-8.41	-12.38	-9.70	-12.46	-10.89
	(1.21)		(1.83)	(1.44)	(1.08)	(2.04)	(1.82)	(1.86)	(2.18)
CONSTANT	2.45	-8.14	-9.20	-3.05	5.11	-4.24	-4.99	4.43	- 4.26
R^2	.14	.10	.11	.13	.14	.12	.14	.10	.21
NOBS	4628	13760	1855	3308	7008	1807	1972	1262	924
$\overline{HW}$	15.7	17.5	13.6	10.3	12.9	19.1	18.5	19.1	20.2

for these groups, though smaller for Chinese women than for the others. All the differences mentioned so far but this last are statistically significant at the one percent level.

The marital coefficients of groups other than blacks with relatively unstable marriages also tends to support the hypothesis, though the pattern is not so strong. Puerto Ricans have the highest percentage of divorced women among ever-married women. The hypothesis predicts a weak effect of marriage, but the difference between married and never-married women is eight hours, and significant. However, the difference between married and divorced Puerto Rican women is less than half an hour, and insignificant. Among Indian women, whose percentage divorced lies about midway between whites and blacks, differences between married women on the one hand and never married or divorced women on the other are both less than two hours and not significant. Cuban and Chicano women, with percentages divorced equal to and 50 percent greater than whites respectively, both show large differences between married women and divorced and never married women.

Obviously no firm conclusions can be drawn from such diverse findings. Not all the variations among racial groups in the effect of marriage can be explained by one theory. However, the pattern of marital coefficients from the nine regressions in Table 3.4 does tend to support the hypothesis that the importance of marriage in reducing labor supply of women depends on racial divorce rates.

No such support is given to similar hypotheses on the effect of children on labor supply. All the coefficients on NK (the number of children ever born) have the expected sign, and all but one are significant. As with earlier studies, the white coefficient is significantly larger than the black coefficient,

but the range among other races is larger still. However, the regression results do not support the hypothesis that marital instability reduces the effect of having children on labor supply. The group with the lowest percent of divorced women, Chinese, has the lowest coefficient. The group with the second highest percentage of divorced women, Puerto Ricans, has the second highest coefficient. There seems to be little connection between the two terms.

Another explanation of differences in the effect of children, advanced by Cain, Bowen and Finegan, and Sweet, is that overcrowding and an extended family structure make babysitters more available for blacks than for whites. Bell rejects this suggestion because labor force participation rates have been increasing even though overcrowding has been decreasing. Moreover, he found that participation rates were higher among black women outside of poor central cities than inside, where one would expect worse housing conditions. However, overcrowding may still increase female labor supply, even if other factors also affect it over time. And while black housing outside the central city may be of better quality than black housing within, it does not automatically folow that black families are less extended outside than inside. Bell presents no evidence on this point.

To see if overcrowding or extended families might explain differences in the effect of children on labor supply among other races, the number of adults per household other than heads and their spouses are shown in Table 3.3. These adults include nonrelatives, siblings, parents, and children of the household head who are over 18.[6] This statistic ranges from .37 for white households to .76 for Chinese. The correlation coefficient between the NK coefficient and the number of other adults per household is .43. This is not very strong evidence that overcrowding or extended family structure decreases

[6] Unfortunately available for all households only, including families with and without children. See Table 3.2 for sources.

the effect of children on labor supply.

Finally, Leibowitz (1975) found that the effect of having children on labor supply increased with the education of the mother. Since the nine groups in this study have widely differing average years of school, we might expect the average effect of having children to differ widely as well. While Leibowitz's finding may be true within racial groups, it is not true between them. Puerto Ricans and Cubans, with the highest NK coefficients, have below average education. Chinese and especially Filipinos have above average education but below average NK coefficients.

Perhaps these weak results stem from the poor quality of the variable used to measure the effect of children. Young children are likely to demand far more work than older children. Older children, especially those who are grown and no longer living in the household, may have reduced their mother's labor supply in the past. Because of less experience, the woman's actual or potential wage rate will be lower, and thus her labor supply may be lower because of her children. But the effect will be far less than for actually having young children at the present.

Gramm (1975), Leibowitz (1975) and others have included dummy variables for women with children under 3 or under 6, and earlier regressions included such variables for the present sample. These regressions were run with and without the NK variable, and separately for all women, married women, and unmarried women. For all specifications, the coefficients on the dummy variable were often positive, and rarely significantly negative. In regressions that included NK as well as the dummy variable, the coefficients on the former were usually significantly negative and virtually the same as the values presented in Table 3.4.

While Census data specify the number of children borne to each woman, the number of young children present is only available for the household. Thus it is not possible to determine if the young children belong to the individual or to another person in the household. This ambiguity may explain why the dummy variables performed so badly. Having a young child in the same household may have little effect on a woman's labor supply if the child is a sibling or grandchild.

3.6 Other Results

Earlier studies have found large and significant differences in the effect of other family income (OFY) on the labor supply of black and white women, but the nine coefficients on that variable in Table 3.4 show relatively little variation. The black coefficient is smaller than the white coefficient, but only 22 percent smaller, and the difference is not significant. The coefficients from all nine regressions are negative and significant at the one percent level. Only two pairs of coefficients are significantly different from another, the smallest, Chinese, from the two largest, Filipino and Indian.

Discussion above suggested that the effect of other family income might be decreased by marital instability or by fluctuating other family income. If the woman expects this variable to be low in the future, either because her marriage will end or her husband's income will fall, she may work more in the present. If these expectations are formed within racial or ethnic groups, we might expect the size of the OFY coefficients in Table 3.4 to be correlated with our measure or marital instability, or a measure of income instability such as the male unemployment rate, shown in Table 3.3. In the full employment year of 1970 this measure ranged from 2.0 percent for Japanese men to 3.6

percent for white men, to just over 6 percent for Chicano, Puerto Rican, and black men, to 11.6 percent for Indian men.

Neither the male unemployment rate nor the percentage of divorced women seem at all related to the size of the OFY coefficient. The group with the highest OFY coefficients, Filipinos, has an unemployment rate slightly below the average of the groups, but Indians have the second highest OFY coefficient and by far the highest male unemployment rate. Filipinos and Chinese both have low percentages of divorced women, while Indians and Puerto Ricans, who have the second lowest OFY coefficient, both have high percentages of divorcees. The correlation coefficient between the OFY coefficient and the male unemployment rate is only -.38 . The correlation coefficient between the OFY coefficient and the percentage of divorced women is also low, .14.

It is not clear why the earlier studies should have found effects twice or three times larger for whites than for blacks, while the present study shows no significant difference. Bowen and Finegan, Cain, and Sweet all used 1960 data, but Bell used 1967 data. Three years from 1967 to 1970 are unlikely to have produced such large changes. The present similarity of coefficients may result from using the log of other family income instead of a linear form used by Bell or the dummy variable specification used by Bowen and Finegan. Earlier regressions on the present sample which used linear other family income instead of the log form produced differences wich were somewhat larger than among the log coefficients but still substantially smaller than those of other studies.

Education enters the labor supply function primarily because of its effect on actual or potential wage rates. The size of its effect on labor supply therefore depends on its effect on wage rates, and on income and sub-

stitution effects. Differences among racial and ethnic groups can arise from any of these three sources, and with the limitations of the present study, it is difficult to know which is responsible for the wide range of coefficients shown in Table 3.4. The smallest effect, .19 hours increase for each year of education among Chinese women, barely significant at the 10 percent level, is a small fraction of the 1.1 hours increase for Indians. Many of the differences between groups are significant at the one percent level.

Bowen and Finegan and Bell both suggest that the higher effect of education on labor supply for blacks than for whites may stem from the very high percentage of poorly educated blacks who are domestic servants. Black women with little schooling, only able to work at jobs which they find demeaning and degrading, may choose not to work at all. White women with little schooling are able to find jobs which they like more, and so their participation rates and hours worked are higher. Therefore the correlation of education with labor supply, other things equal, is larger for blacks than for whites.

The percentage of servants by race is shown in Table 3.3. This percentage ranges for 1.0 percent for the poorly educated Puerto Ricans to 18 percent for blacks, 11 points higher than the second highest group, Indians. Blacks and Indians also have the highest education coefficients, while Chinese are the lowest in both percentage servants and education coefficient. The correlation coefficient between the two terms is .52. In spite of this definite correlation, this evidence does not really support the hypothesis. Puerto Ricans and Chicanos have considerably lower average education than blacks and Indians, and are probably restricted to similarly menial occupations. Since

they are even more adverse to working as servants than blacks, their education coefficients should be even larger. Since they are not, it seems unlikely that the servant hypotheses explains racial differences in the effect of education on labor supply.

Another possible explanation for differences in the education coefficient may be differences in nativity. Other work in progress indicates that the effect of foreign birth and language on wage rates and occupational achievement are highly significant for most of the groups in this study. If these variables do not have the same effect on home productivity that they have on labor market productivity, especially if returns to education are smaller for immigrants, then the education coefficient may be smaller for races with high percentages of immigrants.

To test this hypothesis, an additional variable equal to years of schooling for native born women and zero for other women was constructed. The coefficient on this variable is the difference between the effect of education on the labor supply of all women and native born women. A similar interaction variable was constructed for recent immigrants. None of the coefficients on either of these variables was significantly different form zero for any of the nine races. The hypotheses that the effect of education on labor supply is different for immigrants and natives, or that differences in the percentage of immigrants accounts for differences in education coefficients among racial groups, cannot be confirmed.

Furthermore, even the dummy variables for place of birth and native language were seldom significant. I expected that labor supply would be greater among native English speakers and among native born women than among

immigrants, especially recent immigrants. Language difficulties and other problems of acculturation might be expected to reduce market wages by more than they reduce the productivity of housework, or the marginal utility of leisure. However, the full set of variables was significant only among the Chinese, though significant differences between natives and immigrants also exist among Puerto Ricans, Japanese, and blacks. Perhaps language and nativity affect productivity of home and market work to the same extent. Or perhaps other differences between natives and immigrants, such as motivation, compensate for differences in labor market productivity.[7]

3.7 Conclusion

Although considerable difference exists between the labor supply of black and white women, it is small compared to the differences among the other groups in this study. Filipinos, Chinese, Japanese, and Cubans all work at least as much as blacks, and Indians, Chicanos, and Puerto Ricans all work less than whites. The groups also have greater variation than blacks and whites in marital status, education, number of children, and student status. However, even after controlling for these variables and other family income, nativity, mother tongue, age, and location, about half the differences in labor supply remain. In a regression with hours worked as the dependent variable, Chinese, Filipino, and Cuban women work significantly more hours than blacks. Japanese, blacks, and Chicanos work significantly more than whites, and all groups have coefficients significantly larger than Puerto Ricans.

Earlier studies have suggested that at least part of the higher labor supply of black women compared with whites can be explained by greater marital

[7] See Chapter 6 for an analysis of male earnings by nativity group and more discussion of these points.

instability. The model developed above emphasized that the cost of present leisure includes not just foregone present earnings but also the cost in future earnings of lower wage rates due to lower levels of experience. Groups with high levels of marital instability will be more likely to work in the future, and therefore must pay a higher price for leisure in the present. Thus their present as well as future labor supply may be higher than groups with more stable marriages.

This hypothesis received support from the data on other races analyzed in this paper. The three Asian groups, Japanese, Chinese, and Filipinos, all with low divorce rates, show large differences in labor supply between married and unmarried women. Puerto Ricans and American Indians, with high divorce rates, both have relatively small and insignificant coefficients on marital status variables in labor supply regressions. However, the marital coefficients for Cubans and Chicanos are large even though both groups have relatively high divorce rates.

Data from other races do not support similar hypotheses on black-white differences in the effect of having children or of other family income. There was a low correlation between the size of the coefficient on the number of children ever born and the percentage of divorced women. Black-white differences in the effect of other family income were much smaller than previous studies have shown. Although the full range of coefficients among all nine races was larger, these differences were still not significant. The differences that did exist were not correlated either with the percentage of divorcees or with a measure of income instability, the male unemployment rate.

Differences in the effect of education on labor supply were much larger than differences in income elasticities among the groups. It is not

clear if this was due to large differences in elasticities of substitution, in the effect of education of wage rates, or in some other factor. Education coefficients were correlated with the percentage of women who were servants. There were no significant differences in the effect of education between immigrants and natives. Indeed there were few differences at all between immigrants and natives.

CHAPTER 4

Racial Differences in Female Occupational Achievement

4.1 Introduction

Chapter 2 presented detailed information on the social and economic characteristics and the location of women of nine racial and ethnic groups: whites, blacks, American Indians, Puerto Ricans, Chicanos, Cubans, Japanese, Chinese, and Filipinos. Chapter 3 explored differences in their labor supply functions. This chapter will concentrate on how well these women do when they decide to enter the labor market. How large are the differences in occupational status and wage rates among women of different racial and ethnic groups? Are these differences statistically significant? Do women from different races who are similar with respect to education, age, and other factors earn the same amount? Are they able to gain entrance to similar high status occupations? Do the various groups receive the same rewards for an additional year of school? Or do minorities other than blacks also suffer from discrimination, lower quality schooling, or other disadvantages compare to white women?

As indicated in Chapter 3, these questions have received no attention at all in the social science literature. Although a few studies have been done of achievement among non-white, non-black men, there have been no published analyses of achievement among such women. Since sex roles, intensities of discrimination, and other factors are different between sexes of the different races, there is little reason to expect racial differences reported for men to be the same as those for women. Moreover, there are also

very few studies of men. The first section of this chapter presents data on differences in wage rates and in occupational achievement among the nine groups, calculated from the one in a hundred Public Use Sample of the 1970 Census of Population. The second section discusses how much of the differences can be explained by differences in individual characteristics such as education, and how much should be attributed to racial discrimination in labor market. Subsequent sections examine the possibilities that different ethnic groups receive different prices for their productivity. A conclusion suggests what policies might be most effective in narrowing labor market achievement among different ethnic groups.

4.2 Racial Differences in Duncan Scores and Wage Rates

Because of shortcomings in the Census data discussed in the Appendix to this chapter, two measures of labor market achievement will be used to compare our nine racial groups. The average occupational status of each group is measured by the Duncan score, and monetary success is measured by a calculated hourly wage rate.[1] The occupational averages are for all women who reported an occupation to the Census, including women in and out of the labor force. Women who have never worked outside the home, or who did not work between 1960 and 1970, were shown by the Census as having no occupation. Therefore the sample sizes for computing average occupational achievement are smaller than the samples used for labor supply in Chapter 3. The wage

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[1] See Duncan (1961) for a fuller description of these codes.

averages are only for the subsamples of women who were working during the week prior to the survey in 1970 who also have positive earnings in 1969, and so are smaller still. Racial averages for women between 18 and 65 are presented in Table 4.1. The group with the highest Duncan score is whites with 42.6. Although white women have higher status occupations than any other ethnic group, the three Asian groups are only slightly behind. Chinese have average Duncan scores of 42.2, and the Filipino average is 41.5. None of the differences among these three groups is statistically significant.[2] And although the difference in Duncan scores between whites and Japanese is significant at the five percent level, the difference is only two points. Thus the three Asian groups and whites had virtually equal success in finding good jobs. Whatever discrimination of language difficulties the three Asian groups may have experienced in obtaining entry to high status positions was offset by other factors.

Differences between these four groups and the other five groups, however, are all large and significant. Blacks have the lowest Duncan score, only 27.4, significantly below all groups but Chicanos, whose average score is only 0.4 points higher. These enormous differences in occupational status clearly indicate severe racial discrimination against blacks and Chicanos, either in labor markets or elsewhere in the society. Moreover, the blame for their low occupational status cannot be placed on characteristics which they acquired abroad, since over 98 percent of blacks and over 62 percent of Chicanos in this sample were native born.

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[2]See Appendix Table 4A1.

Table 4.1

Occupational Achievement and Wage Rates
for Women, 18-65, by Race

	White	Black	Indian	Puerto Rican	Chicano	Cuban	Japanese	Chinese	Filipino
Duncan Scores	42.6	27.4	31.8	31.1	27.8	33.1	40.6	42.2	41.5
Wage Rate	$2.86	$2.43	$2.53	$2.70	$2.44	$2.48	$3.05	$3.00	$3.02
Occupation Coefficients	R	-9.64 (.44)	-5.25 (1.70)	-2.62 (1.59)	-3.43 (1.10)	-4.89 (1.78)	-4.62 (1.58)	0.23 (2.00)	-4.67 (2.28)
Wage Coefficients	R	- .159 (.007)	- .057 (.030)	.023 (.028)	- .073 (.019)	- .103 (.028)	- .065 (.025)	- .063 (.031)	- .142 (.036)

R = reference group

The remaining three groups all have Duncan scores significantly above the bottom two groups but significantly below the top four groups. Puerto Ricans and Indians have averages of 31.3 and 31.8 respectively, while Cubans are somewhat higher, at 33.1. Most Puerto Ricans and Cubans are immigrants to this country, while Indians have been here the longest of any Americans. For Indians, Duncan scores and wage rates may present an overly optimistic picture of their economic situation. As discussed in Chapter II, this group has unemployment rates far higher than any other group. Simply having a high status occupation or an adequate hourly wage is little help when no jobs are available. To some extent, of course, all measures of achievement only describe part of this situation which each group faces, but their very high unemployment rate makes this especially true for Indians.

If hourly wage rates rather than Duncan scores are used to measure labor market achievement, the conclusions are basically the same. Blacks have the lowest wage rate, $2.43 per hours, with Chicanos only one cent better off. Puerto Ricans, Indians, and Cubans have changed rank, but they still fall in between the bottom two groups, Asians and whites. Whites, however, are no longer at the top. In fact, with an average wage of $2.86, they are 19 cents below Japanese, a difference that is significant at the 5 percent level. Filipinos and Chinese also have wage rates above $3 per hour, but differences between them and whites are not statistically significant because of smaller sample sizes.

Although these two measures of success give slightly different results, perhaps because of differences in location, age, or labor supply, they reflect the same situation. Blacks and Chicanos are the worst off by any

indicator. Although Puerto Ricans, Indians, and Cubans are somewhat more successful, they are still far below national averages. And the three Asian groups are all eminently successful. In spite of their often recent migration, their treatment during World War II and perhaps lingering racial discrimination, they have attained occupations almost equal to those of whites, and wage rates that are higher. These data show that non-white groups who are as well equipped in terms of education, family stability and other characteristics as whites can also do as well as whites in the labor market.[3]

4.3 Regression Variables

A large part of the differences among the nine races may be due to differences in education, location, experience, and other factors which affect productivity or demand for the kinds of labor which the different races have to offer. By controlling for these differences, it is possible to obtain some indication of the importance of labor market discrimination in explaining wage and occupational differences. If the effect of discrimination on minority achievement seems to be large then government efforts to reduce racial differences in the labor market should be concentrated on reducing discrimination.

Holding the effect of other variables constant also allows us to see how important differences in individual characteristics are in explaining achievement differences. This again may suggest the most effective policies for reducing racial differences. If, for instance, achievement increases sharply with education, and minority women have less schooling than whites,

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[3]See Table 3.2 for years of school, marital status, and nativity by race.

then the best way to increase minority occupational achievement may be to increase their average education. Alternatively, if age differences explain a substantial part of the occupational difference, it may be that no action is necessary to reduce racial differences.

To separate the effects of discrimination from other determinants of occupational achievement, regressions were run with Duncan scores and wage rates as dependent variables. To measure the effects of discrimination, a set of dummy variables was included, with whites as the reference group. Two variables to hold constant labor market conditions in different parts of the country were also included: dummy variables for living in the South and for living in a metropolitan area (SMSA).

Education and experience are the most important determinants of labor market productivity, so the individual's years of schooling was included in the regression. Unfortunately, Census data contain no information on experience. For men, this variable can be approximated by the individual's age minus his education plus 6. For women, this procedure is totally inadequate, since many women drop out of the labor market completely for fairly long periods.

As discussed in Chapter 3, female labor supply, and therefore experience, depends on age, marital status, and the number of children ever born (NK). Therefore, age and the square of age, KN, and four dummy variables for marital categories were included in the regression as proxies for experience. The four marital categories were married spouse present (MSP), married spoud absent (MSA), widowed (Widow), and divorced or separated (DS). Never married women were the reference group. These experience variables were also included in the regression as possible

indicators of commitment to market work and motivation.[4]

Finally, four additional dummy variables designed to measure mother tongue and place of birth were also included in the regression. These variables may indicate actual differences in productivity, or simply employers' opinions of productivity. They are dummies for women whose parents were native born (PNB), who were native born themselves (NB), or who immigrated to the U.S. during the five years preceding the survey (Abroad). An additional variable was included for women who heard only English (Engl) spoken in their childhood homes.

It is expected that Engl, PNB, and NB will have positive coefficients, and that Abroad will have a negative influence on wage rates and Duncan scores. Immigrants may actually be less productive than native born women because of differences in school quality, culture, and ability to speak English. Recent immigrants especially should have more trouble in labor markets than natives or more settled immigrants. Even if real productivity differences are unimportant, imagined ones may still result in lower achievement. Immigrants may have difficulty in transferring academic credentials or foreign experience, and employers may discriminate against people with strange accents even when American English is not required for the job.

On the other hand, it is conceivable that the coefficients for these four variables will not have the expected sign. Restaurant waiters with French accents or secretaries with English accents may actually receive a

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[4]See Smith (1976) for a discussion of this problem.

premium. Educational quality may be higher in some other countries, especially if a much smaller percentage of the population receives such education. A European immigrant who has graduated from a lycee or gymnasium has probably received a far better education than the average American high school graduate. Finally, immigrants may be more motivated than natives. They are very likely more motivated than natives of their own countries who did not leave home. They may also be more motivated than American natives. In sum, the expected signs for the native variables are still positive, and for the recent immigrants negative. But insignificant coefficients or even reversed signs would not be impossible.

The eight racial coefficients from each of the two regressions are presented in Table 4.1, with standard errors in parentheses. These coefficients can be interpreted as the difference in Duncan scores or wage rates between whites and nonwhites who are similar in all respects measured by the independent variables but race. They are the differences between the races adjusted for differences in the other independent variables.

Differences in these adjusted measures of achievement are different from the unadjusted Duncan scores. For each of the five groups with unadjusted scores far below whites - blacks, Indians, Puerto Ricans, Chicanos, and Cubans - controlling for education and the other independent variables explain a large part of the difference between their average Duncan scores and the white average. Except for blacks, the adjusted differences are all fairly small. For instance, the unadjusted Duncan score for Indians was 10.8 points below that of whites, but the adjusted score was only 5.3 points lower. For Chicanos the reduction was from 14.8 points to 3.4 points, for

Cubans from 9.5 to 4.9 points, and for Puerto Ricans, the reduction was from 11.3 to 2.6. Only for blacks, as usual at the bottom, was the adjusted difference still large, 9.6 points versus an unadjusted difference of 15.2 points.

4.4 Sources of Racial Differences in Duncan Scores

With certain reservations discussed below, these results indicate that occupational differences between white women and women from these four minority groups would narrow substantially if the latter were similar in education, age, marital status, nativity, location, and fertility. To see which of these variables, other than race, was important in explaining occupational differences, the following statistic was calculated for each group and for each variable:

$$C_{ij} = b_i(\bar{X}_{iw}-\bar{X}_{ij}) \qquad (i = 1...14) \quad (j = 1...8)$$

The b_i's are coefficients from the regression with Duncan scores as the dependent variable. The $\bar{X}_{ij}$'s are the average values for the ith independent variable for the jth group. The $\bar{X}_{iw}$'s are the average values for the ith variable for whites. Thus $b_i(\bar{X}_{iw}-\bar{X}_{ij})$ is the jth-white difference in Duncan scores attributable to differences in the ith variable. By the nature of least squares estimation, the sum of the C_{ij}'s for each group, $\sum_{i=1}^{16} C_{ij}$, including the race coefficient, should equal the actual difference in Duncan scores between whites and the jth group, D_w-D_j.

This information is presented in Table 4.2. The nonracial coefficients, the b_i's, are in column one. The C_{ij}'s for each race are in the other eight

Table 4.2

Sources of Racial Differences
in Occupational Achievement

	b_i	Black	Indian	Puerto Rican	Chicano	Cuban	Japanese	Chinese	Filipino
EDUC	3.29	4.8	3.8	8.5	11.2	4.3	-1.1	1.2	-3.8
AGE	.18	0.0	0.0	0.0	-0.1	-0.0	-0.1	0.0	0.0
AGE^2	-.00221								
NK	-.93	0.6	0.7	0.2	0.8	-0.4	-0.1	0.0	-0.2
SOUTH	-.54	0.1	0.0	-0.1	0.1	0.2	-0.1	-0.1	-0.1
SMSA	3.97	-0.3	0.8	-1.3	-0.6	-1.4	-1.1	-1.2	-1.1
ENGL	.23	0.1	0.2	1.2	-0.1	1.9	0.0	1.0	1.5
PNB	-1.56								
NB	2.77								
ABROAD	-1.78								
MSP	1.28	0.2	0.1	0.1	0.1	0.0	0.0	0.0	0.2
MSA	.15								
WIDOW	.41								
D/S	-.03								
STUDENT	4.08	0.0	0.0	0.1	0.1	0.0	-0.1	-0.4	-0.1
RACE (L_j)		9.6	5.3	2.6	3.4	4.9	4.6	-0.2	4.7
TOTAL = $\sum_i C_{ij}$		15.3	10.9	11.3	14.9	9.4	2.0	0.4	1.1
$D_w - D_j$		15.2	10.8	11.3	14.8	9.5	2.0	0.3	1.1

columns. The contribution of each racial dummy coefficient is in its proper column. The major assumption underlying this analysis, to be relaxed in later sections of this chapter, is that each group receives the same price for its characteristics. If this is true, then a figure of 4.8 for black education means that the difference in average education between blacks and whites accounts for 4.8 points of the difference in Duncan scores. The effect of the greater number of divorced black women is less than one point. Negative C_{ij} indicates that if whites and the jth group had identical values for the ith variable, the difference between their Duncan scores would be larger, not smaller.

By far the most important sources of occupational differences between whites and the non-Asian minority groups are education and discrimination. Education is especially important for the two groups with the lowest average years of schooling, Puerto Rican and Chicanos. If these two groups had as much schooling as whites, their Duncan scores would have been 8.5 points and 11.2 points higher respectively. Although the increases are substantially lower for the other three groups, they are still large. Educational differences account for 4.3 points difference in Duncan scores between Cubans and whites, 3.8 points for Indians, and 4.8 points for blacks. Thus, if the assumptions underlying this model are correct, there would be a very large reduction in racial inequalities in occupational achievement if education levels were more nearly equal.

Most of the remaining differences can be accounted for by the racial coefficients. These coefficients were significant at the five percent level for all groups but Puerto Ricans and Chinese. If the model were correctly specified, and included all measures which affect Duncan scores, then this

coefficient could be interpreted as a pure measure of the strength of labor market discrimination against each group. It is conceivable that other factors which have not been held constant, such as quality of schooling, class background, motivation, or more precise measures of location and experience, may account for some of these differences. However, the fact that so many of these groups, with such varied backgrounds, locations, family structures, levels of education, and nativity, have lower Duncan scores that whites does suggest pervasive occupational discrimination against nonwhite women. This of course is in addition to the discrimination that all women may face in gaining admission to traditionally male occupations.

The racial coefficients themselves are presented in Table 4.1 The last row of Table 4.2 shows their contribution to the difference in Duncan scores between whites and the jth group. Thus the results indicate that 9.6 points of the black-white differences in Duncan scores is caused by discrimination. For Cubans and Indians, the contribution of discrimination is 4.9 points and 5.3 points, and for Puerto Ricans and Chicanos, 2.3 points and 3.4 points.

Racial coefficients from a regression using wage rates as the dependent variable and the same independent variables are also presented in Table 4.1. They indicate discrimination against nonwhite women even more strongly than do the occupation coefficients. Racial coefficients are significantly negative for all groups but Puerto Ricans, who are heavily concentrated in high wage New York.[5] The percentage difference between whites and the other groups is greater for wages than for Duncan scores. Whatever

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[5]Niemi (1974b) reported finding little evidence that Puerto Rican men were paid less than white men in New York once productivity differences were held constant.

discrimination nonwhite women suffer in gaining admission to high status occupations is less than the discrimination they encounter when they actually receive their paychecks.

To see this in a different way, a wage regression was run that included the Duncan score as an independent variable, along with the other independent variables used in the previous Duncan and wage regressions. The coefficients on the racial variables can be interpreted as the differences among groups for women with the same level of occupational achievement. The racial coefficients in this last regression were smaller than in the other two regressions, and many were not significant. However, the coefficients for blacks, Chicanos, Cubans, Chinese, and Filipinos still were significant, even after occupation was held constant.

Thus even when women from these groups were equal to white women, in all respects including narrowly defined occupation, they still earned lower wages. Not only do minority women suffer discrimination by being excluded from desirable occupations, even after they have surmounted occupational barriers, they still suffer discrimination in the form of lower wage rates.

Aside from education and discrimination, the only other factor which has the consistent effect of reducing minority achievement is the number of children. Four of the five of the non-Asian minorities have lower Duncan scores than whites partly because they have more children. The size of the effects range from 0.8 points for Chicanos to 0.2 points for Puerto Ricans. This suggests that better day care facilities might contribute slightly to reducing racial occupational differences. Similarly, encouraging firms to open higher status occupations to part-time workers would probably narrow white-nonwhite differences as well as narrowing male-female differences in

occupation.

Living in metropolitan areas improved the Duncan scores of blacks, Puerto Ricans, Chicanos, and Cubans. If these groups had the same geographical distribution as whites, their Duncan scores would have been considerably lower. Indians, however,would have higher occupational achievement if they lived in large cities more often. Differences in regional distributions between minority groups and whites were not important in explaining differences in Duncan scores. The effect of this variable was largest for Cubans, but even for them it accounted for only 0.2 points of the Cuban-white difference. Racial differences in age were too small to have a large effect on racial differences in Duncan scores, and the coefficients for the marriage variables meant that racial differences in percentages of women in the five marital categories also were unimportant in accounting for occupational differences.

Differences in nativity, however, had some effect for four of the groups. If these groups had the same distribution as whites in terms of Abroad, NB, and PNB, Cuban Duncan scores would have been 1.9 points higher, 1.5 points for Filipinos, 1.2 points for Puerto Ricans, and one point for Chicanos. One implication of this is that some of the racial differences will disappear as the recent immigrant groups learn to cope better with American society. A more timely implication is that the government might do more to ease the adjustment of new arrivals. This will be discussed at greater length below.

4.5 Differences in the Effects of Education and Nativity

Substantial evidence has accumulated that the independent variables

which determine occupational achievement and wage rates have different effects for blacks and whites. In view of the important differences among our nine groups discussed in Chapters 2 and 3, it seems likely that their Duncan and wage functions also differ. By running a regression of all women together, the effects of the independent variables are constrained to be identical for all gropus. An F test of identical relations for all groups for occupational achievement was rejected at the five percent level. Therefore the constraint was removed, and separate regressions for each group were run. These regressions were the same as the earlier regressions, except that the racial variables were dropped. The coefficients from regressions with Duncan scores as the dependent variable are shown in Table 4.3, with standard errors in parentheses.[6]

Most previous studies of male earnings functions have indicated that whites receive substantially more for additional schooling than blacks do. The present results indicate that the same is true for women when occupation rather than earnings is the measure of labor market achievement. White women have the highest education coefficient, significantly higher than all but one other group. The second highest group is Japanese, followed by blacks. The remaining six groups all experience significantly smaller improvements in their occupations status from an additional year of schooling than the three highest groups. The lowest effect of all is experienced by the relatively highly educated Chinese, whose coefficient is significantly lower than all groups but Cubans and Puerto Ricans.

Several theories have been advanced to explain black-white differences in the relation between education and earnings, and some of them may be responsible for occupational differences among these groups as well. First,

[6]Coefficients from wage regressions are shown in Appendix, Table 4A3.

Table 4.3
Female Duncan Regressions by Race

Variable	White	Black	Indian	Puerto Rican	Chicano	Cuban	Japanese	Chinese	Filipino
EDUC	3.93 (.13)	3.29 (.06)	2.83 (.20)	2.21 (.13)	2.29 (.106)	2.13 (.13)	3.54 (.20)	1.99 (.14)	2.51 (.22)
AGE	.69 (.18)	-.24 (.10)	-.15 (.35)	-.39 (.25)	.44 (.14)	-.72 (.30)	-.05 (.34)	.36 (.40)	1.17 (.51)
AGE^2	-.0078 (.0022)	.0024 (.0013)	.0013 (.0045)	.0036 (.0033)	-.0038 (.0019)	.0062 (.0038)	-.0010 (.0042)	-.0041 (.0049)	-.0139 (.0066)
NUMKIDS	-1.56 (.21)	-.77 (.08)	-.59 (.30)	-.25 (.24)	-.84 (.13)	-.42 (.42)	-.97 (.34)	-1.53 (.43)	-2.27 (.49)
SOUTH	.72 (.77)	-1.15 (.39)	-.75 (1.45)	3.42 (2.12)	.81 (.89)	1.04 (.97)	3.69 (2.64)	..91 (2.65)	3.96 (3.38)
SMSA	4.35 (.64)	4.06 (.42)	2.60 (1.20)	2.52 (1.80)	.95 (.61)	-6.40 (2.64)	.44 (1.54)	.27 (2.03)	-.83 (2.47)
ENGL	-.75 (.98)	-1.11 (1.50)	-2.25 (1.21)				1.20 (1.44)	-.94 (2.31)	3.41 (2.71)
PNB	-.17 (1.04)	-8.18 (1.85)					-.69 (1.53)	1.33 (2.14)	-5.03 (3.67)
NB	4.99 (1.66)	3.98 (2.52)		8.88 (1.17)	1.52 (.56)	.60 (2.12)	11.84 (1.31)	6.64 (1.53)	-.52 (2.46)
ABROAD	-2.97 (3.17)	-3.67 (2.27)		-5.29 (1.40)	-.49 (1.12)	-4.94 (1.10)	3.07 (2.09)	-1.39 (1.63)	.15 (1.92)
MSP	1.07 (1.01)	1.80 (.56)	1.71 (1.85)	-1.17 (1.26)	1.30 (.79)	-1.67 (1.60)	.38 (1.67)	3.58 (1.97)	3.58 (2.16)
MSA	.75 (2.35)	.04 (1.10)	2.57 (3.75)	-.83 (3.05)	2.40 (1.66)	-.56 (3.08)	1.05 (3.73)	-3.94 (4.68)	.93 (3.72)
WIDOW	2.56 (1.69)	.43 (.83)	-2.55 (3.56)	3.21 (2.67)	-.61 (1.39)	-1.46 (3.04)	2.74 (2.99)	-1.43 (3.80)	4.38 (6.03)
D/S	-.87 (1.49)	.75 (.66)	1.99 (2.42)	-2.53 (1.54)	.64 (1.06)	-2.05 (2.19)	-1.25 (2.59)	-.28 (4.14)	1.12 (3.92)
STUDENT	.53 (1.31)	6.80 (.79)	-1.04 (2.52)	3.90 (2.03)	6.79 (1.28)	.87 (2.19)	.12 (1.98)	1.80 (1.94)	.09 (2.78)
CONSTANT	-22.3	1.66	5.52	17.18	-2.69	31.17	-9.17	10.07	-11.11
R^2	.29	.34	.21	.30	.32	.27	.32	.36	.27
NOBS	3223	9438	1120	1602	4163	1233	1386	851	655
DUNCAN	42.6 (203)	27.4 (213)	31.8 (216)	31.3 (191)	27.8 (196)	33.1 (198)	40.6 (212)	42.2 (211)	41.5 (224)

racial discrimination may be more intense against minority women with high levels of education than against other minority women. Barriers which keep black, brown, and yellow women out of high status occupations may affect only well educated women with the qualifications for such jobs. If discrimination operates in this fashion, it would result in a smaller variation in Duncan scores by education for minority women than for whites, and thus smaller education coefficients.

This form of discrimination may explain much of the difference in education coefficients between whites and blacks, and it may contribute to the low coefficients of the other minority groups. However, most of these groups receive far lower rewards for an additional year of school than blacks do. By all other measures, blacks suffer most from racial discrimination. Therefore we must look to other explanations to account for the pattern of education coefficients presented in Table 4.3.

Offsetting this tendency for racial discrimination to increase as education increases may be the increased demand in recent years, especially among blacks, for college educated workers. One result of the Civil Rights movement and the War on Poverty was a need for educated blacks to administer programs designed to help unskilled, poor blacks. How much these government programs helped their intended beneficiaries is unclear, but it is clear that they provided many jobs at good salaries for a large number of well educated blacks. Private firms have also been under pressure to hire well educated blacks in highly visible, high status positions which few blacks have previously occupied. This source of greater demand for skilled labor was not important for most of the other groups. Thus if discrimination depressed the education coefficients of Chicanos and Puerto Ricans, there was no politically inspired increase in demand to offset it.

Government demand for clerical workers may also be responsible for the above average education coefficient among Indians. Although the Bureau of Indian Affairs rarely employs Indian women at nonclerical positions, the BIA does create high demand for relatively skilled labor in and near many large reservations. Indian women with less than average (9.6 years) schooling often have difficulty finding any work, but Indians who are above the average for their race may find it relatively easy to work for the BIA. In fact, 13 percent of working Indian women do work for the federal government. Although most of them are employed in low positions within the agency, the government jobs have relatively high occupational status compared to jobs which are available to their less educated sisters.

Another common explanation for differences in black-white returns is differences in the quality of education they received, and in levels of performance on achievement tests attained by students with equal years of schooling. It seems plausible that similar differences exist between whites and the other minority groups of this study, especially among those who were educated abroad or who have little or no English. In fact, even groups who perform well on measures of scholastic achievement might have lower labor market productivity than native born women because of language problems or other limitations associated with adjustment to a new culture. However, these differences should be accounted for by the dummy variables identifying native English speakers, recent immigrants, natives, and the children of natives. If immigrants are less productive than natives with similar education and other characteristics, then the dummy variables should pick up this difference.

However, this will not be true if the difference between natives and immigrants, or English speakers and nonEnglish speakers, varies by level

of education. If being a native or speaking good English is not as important for low status jobs as for high status jobs, then the return to education will be lower among groups with high percentages of immigrants than among groups who are mostly natives.[7] This might explain the very low education coefficients for Chinese women. Their education is only half a year below that of whites, 62 percent are immigrants, and their education coefficient is the lowest of all the groups. If the well educated Chinese are immigrants, and immigrants are not able to benefit from their education, then a Duncan regression will show a low return to education for Chinese. This low return may not reflect the situation of Chinese natives, however.

Differences in Duncan scores between immigrants and natives, other factors constant, are measured by the set of four nativity coefficients (Abroad, NB, PN, and Engl) in Table 4.3. Since pre-1965 immigrants were the reference group, the coefficients indicate differences in Duncan scores between these earlier immigrants and the other categories.

Seven of the nine ethnic groups had lower occupations among recent (1965 to 1970) immigrants than among earlier immigrants, but the difference was statistically significant only for Puerto Ricans and Cubans. The two positive coefficients, for Japanese and Filipinos, were also not significant. Differences between natives and immigrants, measured by the size of the NB coefficient, are positive for seven of the eight groups with sufficient numbers to estimate the difference. The coefficient, and the difference, is significant for five of the seven. Thus, even though immigrants improve their occupational achievement the longer they live in the U.S., they never reach the levels attained by natives comparable in race, education, marital

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[7] Chapter 5 discusses regressions which suggest that this may be true for men.

status, etc. This advantage of birth does not continue beyond the second generation, however. Of the five races for whom differences between women whose parents were both born in the U.S. and other native born women could be measured, the difference was only significant for blacks. And for them, the coefficient on PNB, i.e., the difference, was quite large and negative. Black women whose parents were born here have significantly lower Duncan scores than other native blacks, and lower scores than new as well as old immigrants, even when the other independent variables are held constant.

One final result from the group of variables measuring acculturation is the general lack of significant difference between native English speakers and comparable women whose native tongue was not English. The percentages of native speakers among Puerto Ricans, Chicanos, and Cubans were too low to include a dummy variable for such women, but the coefficients for such women of the other six groups were only significantly different from zero in one case, Indians, and only at the ten percent level. However, instead of being positive, the coefficient was negative. Indian women who heard languages other than English in their childhood homes have Duncan scores which are slightly but significantly higher than similar Indian women who spoke only English. Fifty-four percent were native English speakers by this definition. For white, black, Japanese, Chinese, and Filipino women, a high correlation between hearing only English spoken at home as a child and being the daughter of natives may explain the negative coefficients and general lack of signficance for both these variables.

4.6 Marital Status, Children, Age, and Location

The effects of other independent variables on Duncan scores were very

often not significant. For instance, out of four dummy variables differentiating five marital categories in each of the nine race regressions, only one was significantly different from zero at the five percent level, and two at the ten percent level. If the actual coefficients were all zero and the estimates were randomly distributed around their expected values, we would expect more of the estimates to be significant at these two levels than we obtained. Clearly marital status does not affect occupational achievement, in spite of its strong effect on experience. Marital coefficients from the wage regressions were significant slightly more often, but no more than could occur randomly.

Several questions arise from these results. Since being married decreases experience for some of the races, as indicated by the labor supply regressions discussed in Chapter 3, do the present results indicate that experience has little effect on occupational achievement or wage rates? This question cannot be answered with any reliability until explicit measures of experience are available for these races. However, the coefficients on age and the number of children, discussed below, suggest that experience does pay off.

A selection process may partly explain the lack of significance of the marital coefficients. Only the most motivated married women, or those able to work at better jobs for higher pay than their other characteristics would indicate, choose to work. Married women who are below average may not work, and may not have occupations to report to Census interviewers. For the other marital groups, where labor force participation rates are much higher, below as well as above average women work. So differences in the average level of motivation between married and unmarried women may tend to offset

differences in levels of experience in determining wage rates and Duncan scores.[8] However, the size of this effect cannot be large, because the distribution of women by marital category is only a few percentage points different between the sample of all women and the sample of women with Duncan scores.

As expected, the effect of children is to decrease occupational achievement. All nine coefficients on the number of children ever born were negative, and all but those for Puerto Ricans and Cubans were significant at the five percent level. Children probably decrease Duncan scores in two ways. First, especially when the children are young, they discourage the mother from working altogether. When she eventually returns to the labor market, she is forced to enter a lower status occupation than similar women without children because she has not benefitted from on the job training and because her skills have deteriorated. The more children she has had, the longer she is likely to have stayed out of the labor market, and the lower her occupational achievement will be.

A second reason that the number of children may decrease Duncan scores is the lack of good jobs open to part time workers. The more children a woman has, the more likely she is to work part time. If part time workers can only get low status jobs, then women with children will have lower Duncan scores than other women.

Dummy variables were included in the regression for women who lived in the South and who lived in SMSA's. The coefficients can be interpreted as the difference in Duncan score between southern and nonsouthern women who are equal in all other characteristics measured by the independent variables. A priori it is not clear which signs these coefficients should

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[8] See the Appendix to this chapter for a fuller discussion of a similar problem for wage rates.

have. Southern and non-metropolitan labor markets generally have less demand for skilled labor. For this reason a woman with a given level of education should be expected to have a lower status occupation.

But these labor markets also have a lower supply of skilled workers, since education among these women is lower, on average, than elsewhere. Thus if southern demand for skilled labor is lower than northern demand by more than the regional difference in supply, we would obtain a negative coefficient on the South dummy. But if the opposite is true, then women with certain education and labor market skills might obtain higher status jobs in the South than in regions where the competition is stiffer.

Since supply and demand factors work in opposite directions, it is not surprising, therefore, that the reduced form coefficients for South are seldom significantly different from zero. In fact, only for blacks was this coefficient significant. The likely explanation is that discrimination is stronger against blacks in the South than in other parts of the country. For other groups, regional differences in the intensity of discrimination may be small.

The identification of location into only four categories, southern, nonsouthern, metropolitan and nonmetropolitan, is not a very satisfactory way of identifying the effects on occupational achievement of very different labor markets. Many of these ethnic groups are concentrated in two or three cities, often with unusual demands for labor. For instance, 37 percent of Japanese and 28 percent of Filipinos lived in Hawaii in 1970. The concentraion of federal government employment in that state undoubtedly has an effect on occupational achievement, and the effects of some of the

independent variables on Duncan scores, which is not captured by our two dummy variables.[9] Running separate regressions for different labor markets is beyond the scope of this study for several reasons, but further research in this area would certainly shed light on the role of personal characteristics and the role of labor market characteristics in determining labor market success among different ethnic groups.

The final variable of interest is age. The standard relationship found between labor market achievement and age is hill shaped. Workers start their careers at the bottom of the ladder, increase as they gain skills and seniority, but then reach a peak in their middle years and decline as their health begins to fail and their strength and energy are reduced. This parabolic relation can be measured by including both age and the square of age in regressions. The sign on the coefficient of age is positive, and the sign on the coefficient of age squared is negative.

This concave age-achievement relation was found for female labor supply in Chapter 3 and for male earnings and occupational status in Chapter 5 for all nine ethnic groups. In those sets of regressions, all age and age squared coefficients had the anticipated signs and were significantly different from zero. However, in the female Duncan regressions presented in Table 4.3, this was true only for whites, Chicanos, and Filipinos. The Chinese coefficients had the correct signs, but were not significant, and the other groups had negative age coefficients. Thus black, Indian, Puerto Rican, Cuban, and Japanese women do not advance up the occupational ladder as they grow older and presumably more experienced.

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[9] In 1970, 8.9 percent of nonagricultural employees in Hawaii and 4.1 percent for the U.S. as a whole were federal government employees. See Statistical Abstract of the U.S., 1975, pp. 246 and 354.

Of course, age and experience are not well correlated for women. The correlation is weakest among ethnic groups with the lowest labor supply. These should therefore also be the groups with the flattest age-achievement hills. However, groups with high labor supply, like blacks, Japanese, and Chinese, are not always the groups with concave age-achievement hills. Groups with low labor supply, like Chicanos, sometimes are. Perhaps interactions between nativity, race, and age account for the large range of age coefficients, without information on the past work experience of women in our sample. It is difficult to examine the alternative explanations. Differences in the timing of work at home or in the labor force may make the correlation between age and experience different for different ethnic groups. These differences would then result in different age coefficients.

4.7 Conclusion

Differences in Duncan scores presented in this chapter indicate that on average, white women have the highest status occupations of the groups in this study, but Chinese, Filipino, and Japanese women are almost as successful. However, Cubans, American Indians, Puerto Ricans, and especially blacks and Chicanos have much lower status occupations.

To analyze the sources of these differences, a Duncan regression was run on a sample of women of all races. The results suggest that labor market discrimination and low levels of education are the only important explanations for low racial averages in occupational achievement. If Puerto Ricans and Chicanos had as much schooling as whites, their Duncan scores would have been 8.5 points and 11.2 points higher respectively. For blacks, Cubans, and Indians, the increase would have been 4.8 points, 4.3 points,

and 3.8 points. Thus reducing inequality among ethnic groups required that differences in education be narrowed.

However, even if the minority women in this study had been identical to white women in terms of education, age, location, nativity, fertility, and marital status, as measured above, they still wouldhave had lower occupational achievement. This residual difference in Duncan scores that remained after eliminating other differences was largest for blacks, 9.6 points. For Indians (5.3), Cubans (4.9), Filipinos (4.7), and Japanese (4.6), it was also fairly large. Some of this residual difference may indicate differences in the quality of education, or in other factors inadequately measured by our independent variables, but much of this pure racial difference undoubtedly reflects simple racial discrimination. More urgent and more effective than reducing educational differences is the need to eliminate all aspects of racial discrimination, not only against blacks but also against other minorities.

Regressions run separately for each ethnic group indicate that rewards to education and experience are considerably higher for white women than for minority women. More intense discrimination against well educated nonwhites than against poorly educated nonwhites may be the cause. Alternatively, differences in rewards to education for natives and immigrants may explain low education coefficients for Chinese, Cubans, Puerto Ricans, Chicanos, and Filipinos. All these groups have a high percentage of immigrants. Low return to experience also may be caused by discrimination, or by the fact that the relation between age and experience may vary among races.

Other coefficients suggest that marital status is not important in

determining occupational status, but that fertility is. The more children a women has borne, the lower her Duncan score will be, other things equal. Recent immigrants tend to have lower status occupations than earlier immigrants, who have lower Duncan scores than natives. However, differences are not statistically significant for many ethnic groups.

APPENDIX 4A

Measures of Labor Market Achievement

Several different variables are commonly used to measure labor market achievement. To some extent for all demographic groups, but especially for prime age women, it is not clear which measure is best. If pure measures of productivity are needed, then the hourly wage rate is preferable to annual earnings, since annual earnings is the product of annual hours of work and hourly wage rates. However, if differences in labor market success rather than pure productivity differences are of more interest, then for some groups annual earnings may be the preferred measure.

A racial group may suffer discrimination in the likelihood of unemployment, but still receive identical wages with other races. In fact, this may become increasingly likely if antidiscrimination action by the federal government concentrates on equal pay for equal work without requiring that minority workers be hired. Differences in annual earnings which result from more unemployment are just as important as differences which result from lower wage rates.

For nonstudent men under retirement age who work at all, it is reasonable to assume that part time work is involuntary. Differences in annual earnings indicate the relative economic position of different races better than differences in hourly earnings. Therefore in Chapter 5, earnings will be used as the measure of male achievement. For women, however, part time work is more often voluntary than not. Differences in annual earnings reflect differences in the desire to supply labor to the market more than they reflect differences in productivity, discrimination, or wage rates.

Although neither assumption is completely valid, for female workers it is better to assume that all time spent out of the labor market is voluntary than to assume that it is involuntary. There the hourly wage rate rather than annual earnings is the preferred measure of labor market achievement when no information on annual hours of unemployment is available.

Unfortunately, explicit measures of hourly wage rates are also not available in the Census data. It must be calculated from

$$(1) \qquad W = \frac{E}{H \cdot K}$$

where E is annual earnings in the year prior to the survey (1969), K is an imputed value for the number of weeks worked in that year, and H is an imputed value for the number of hours worked in the week prior to the survey. The values of H and K must be imputed from codes representing broad categories of weeks and hours worked. Since no alternative was available, the midpoint of each category was used.[1]

The errors resulting from this imputation are likely to be much larger for women who work only a few hours per week or a few weeks per year. Not only are the categories much broader near zero, but an increase of a few hours or a few weeks is equivalent to a much greater percentage increase in labor supply for part time than for full time workers. Thus in any regression with W as the dependent variable, the error term may be heteroskedastic. The wage rate W will have much larger errors for groups

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[1] For hours worked, the categories are 1 to 14, 15 to 29, 30 to 34, 35 to 39, 40, 41 to 48, 49 to 59, and 60 or more. For weeks worked the categories are 1 to 13, 14 to 26, 27 to 39, 40 to 47, 48 to 49, and 50 to 52.

who tend to work part time, such as married women, than for women who tend to work full time.

Fortunately, this imputation process does not result in errors which are correlated with the independent variables. Only the variances of the errors, not the errors themselves, are correlated. Thus the labor supply regressions analyzed in Chapter 3 produced unbiased estimates of the coefficients. The estimated standard errors may be somewhat too small for variables with large negative coefficients and too large for variables with positive coefficients. But with so many observations these inaccuracies are not likely to affect any of the conclusions reached.

Another source of error in the calculation of equation (1) may not be so harmless in wage regressions, though it does not matter in the labor supply functions of Chapter 3 .[2] The measure of hours is not the average for the previous year, but simply the number worked in the previous week. Since only women who worked during the previous week and had a positive value for hours worked can be included in regressions with W as the dependent variable, the difference between the actual measure used, H, and the desired measure, average hours worked per week in 1969 (H*), will be greater for women with low labor supply than for women with high labor supply.

To see this, let

(2) $H = H^* + e,$

where e is a random fluctuation equal to the difference between the average number of hours worked in the previous year and the imputed number worked in

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[2]See also Jones and Husby (1976) for additional analysis of the shortcomings of this measure.

the previous week. Women with large values of H* and large negative values of e will still be included in the sample, since H for them will still be positive. However, women who ordinarily work only a few hours per week who worked even fewer hours per week than usual during the week before the Census survey often will not have worked at all. If H* is low and e is negative, H will be zero. These women will not be included in the sample on whom wage regressions can be run. Thus the expected value of e is not zero, but it depends on the value of H*, which in turn depends on variables which must be included in the wage regression.

These variables will therefore be correlated with the error term in the wage regression, since it includes e as well as other sources of random error.

(3) $W = \Sigma\beta X + e + u = \Sigma\beta X + V$

Since the independent variables are correlated with e, they will be correlated with v. The ordinary least squares estimates of the β's will therefore be biased no matter how large the sample. Variables with low values of H* will be more positively correlated with e, and thus with v, than variables with high values of H*. Their coefficients therefore will be biased downward.

One solution to this problem might be to use the hours worked regressions of Chapter 3 to estimate values of $\hat{H}$ conditional on given values of the X's. Women with values of H more than one or two standard deviations above their value of $\hat{H}$ imputed from the hours worked regression could be excluded from subsequent wage regressions. The justification for this would be that such women probably have very large values of e in equation (2). Since women with large negative values of e cannot be included in wage regressions,

the expected value of e can be brought back to zero, and bias eliminated from equation (3) only by excluding women with large positive values of $\hat{e}$. (Other two stage procedures, perhaps including lower weights for women with large values of $\hat{e}$, but not zero weights, might be also considered.)

A better solution is to find another measure of achievement that can be measured without error, or at least without errors that are systematically correlated with the independent variables in equation (3). Such a measure exists in the Duncan occupational codes which can be calculated from industry and occupation data available in the Census data. This code is often used to understand racial differences in achievement even when information on family background is lacking.

Duncan codes can be calculated for both women who currently work and for those who have done market work in the past. Although they do not measure monetary success directly, they are highly correlated with wage rates. In some ways they may be a better measure, since they are free of temporary fluctuations. They are also less subject to underreporting than wage or earnings data, and probably reflect nonpecuniary differences among jobs better than a narrow monetary measure of achievement.

Table 4A 1

T-statistics in Duncan Scores
For Women

	Black	Indian	Puerto Rican	Chicano	Cuban	Japanese	Chinese	Filipino
White	36.24	14.64	18.95	31.54	14.23	2.97	.49	1.16
Black		-6.45	-7.42	-1.07	-9.42	-21.63	-19.58	-15.63
Indian			.62	5.61	-1.52	-10.22	-10.73	-8.92
Puerto Rican				6.19	-2.44	-12.52	-12.58	-10.23
Chicano					-8.27	-19.83	-18.36	-14.79
Cuban						-9.36	-9.92	-8.07
Japanese							-1.74	-.86
Chinese								.61

Note: If D_i and D_j are Duncan scores for the ith and jth group a test of the hypothesis that they differ is found by calculating

$$t_{ij} = \frac{D_i - D_j}{\sqrt{\frac{s^2_{D_i}}{N_i} + \frac{s^2_{D_j}}{N_j}}} \qquad i = 1...8 \text{ and } j = 2...9$$

where s_{D_i} and N_i are the sample standard deviation of Duncan scores and the number of observations for the ith group respectively. These t statistics are presented above for Duncan scores and in Table 4A2 for wage rates.

Table 4A2

T-statistics for Wages
For Women

	Black	Indian	Puerto Rican	Chicano	Cuban	Japanese	Chinese	Filipino
White	8.65	3.61	2.09	7.28	5.28	-2.39	-1.44	-1.50
Black		-1.27	-4.14	-.16	-.89	-8.93	-6.21	-6.01
Indian			-1.68	1.11	.51	-5.01	-3.93	-3.91
Puerto Rican				3.66	2.62	-3.85	-2.77	-2.78
Chicano					-.69	-8.10	-5.83	-5.67
Cuban						-6.55	-4.92	-4.83
Japanese							.39	.26
Chinese								-.09

Table 4A3

Female Wage Regression by Race

Variable	White	Black	Indian	Puerto Rican	Chicano	Cuban	Japanese	Chinese	Filipino
EDUC	.062 (.066)	.081 (.003)	.063 (.010)	.023 (.006)	.043 (.004)	.023 (.006)	.069 (.008)	.049 (.007)	.071 (.010)
AGE	.054 (.008)	.018 (.006)	.028 (.019)	.026 (.013)	.030 (.009)	.021 (.012)	.036 (.015)	.003 (.020)	.044 (.023)
AGE^2	-.603 (.104)	-.190 (.071)	-.281 (.235)	-.326 (.174)	-.276 (.111)	-.264 (.152)	-.369 (.183)	.007 (.240)	-.466 (.309)
NUMKIDS	-.038 (.010)	-.019 (.005)	-.014 (.016)	-.008 (.015)	-.011 (.007)	-.016 (.018)	-.035 (.014)	-.021 (.021)	-.014 (.023)
SOUTH	-.072 (.036)	-.093 (.021)	-.071 (.080)	-.145 (.115)	.084 (.147)	-.191 (.040)	-.043 (.118)	-.189 (.148)	-.155 (.169)
SMSA	.183 (.031)	.259 (.023)	.032 (.065)	.271 (.110)	.212 (.036)	-.175 (.129)	.028 (.072)	.198 (.113)	.009 (.119)
ENGL	.004 (.047)	.141 (.080)	-.0002 (.066)				-.041 (.058)	.116 (.112)	.058 (.126)
PNB	-.038 (.050)	-.328 (.100)					-.069 (.061)	-.234 (.102)	-.283 (.160)
NB	.029 (.079)	.123 (.130)		.020 (.059)	.038 (.033)	.096 (.099)	.222 (.057)	.015 (.079)	.091 (.106)
ABROAD	.077 (.151)	-.278 (.123)		-.122 (.080)	-.074 (.065)	-.128 (.044)	-.246 (.115)	-.278 (.084)	-.012 (.084)
MSP	-.043 (.044)	.095 (.030)	.172 (.046)	.029 (.061)	.156 (.042)	.039 (.061)	.126 (.067)	.054 (.100)	.076 (.091)
MSA	-.055 (.112)	.059 (.061)	-.126 (.192)	-.081 (.146)	.138 (.101)	.125 (.118)	.247 (.142)	-.070 (.223)	.195 (.181)
WIDOW	-.027 (.071)	.043 (.043)	.060 (.183)	.092 (.134)	.004 (.073)	.182 (.115)	-.039 (.113)	-.236 (.180)	.398 (.212)
D/S	-.026 (.062)	.074 (.035)	.296 (.118)	.038 (.077)	.136 (.054)	.079 (.083)	.252 (.098)	.411 (.187)	.109 (.165)
STUDENT	.060 (.004)	.164 (.046)	-.020 (.142)	-.123 (.109)	.147 (.067)	-.047 (.093)	.284 (.088)	.107 (.103)	.346 (.138)
CONSTANT	-.979	-.776	-.774	-.124	-.684	.404	-.938	.031	-1.042
R^2	.11	.16	.04	.04	.11	.08	.14	.15	.14
NOBS	1927	6422	619	863	2293	876	975	612	462

CHAPTER 5

Earnings Differences Among Men

5.1 Introduction

This chapter will examine earnings differences among men from our nine ethnic groups. Along with whites, Japanese and Chinese men are relatively successful. Along with blacks, Indians, Puerto Ricans, Filipinos, Chicanos, and Cubans are not. What accounts for the large differences in annual earnings? Do differences in education and other personal characteristics explain it all? Or do the unsuccessful ethnic groups also receive lower rewards for the years of schooling and experience which they do have? If so, are these different rewards the result of labor market discrimination or of lower quality education? If there is discrimination, does it occur by the exclusion of minorities from well paying occupations, or from failure to promote them within occupations?

Most important, what government policies can be used to reduce racial earnings disparities? Other studies have shown that simply increasing black years of schooling to white levels will not be sufficient to eliminate the black/white earnings gap without also increasing the rewards which blacks receive for education. Is this also true for other minorities? Which groups are likely to benefit most from improved education and manpower programs, which from anti-discrimination measures, and which from location subsidies to encourage firms to increase employment in depressed areas?

Although some studies have been done on differences in economic achievement among European ethnic groups and on Chicanos, most nonblack, nonwhite

minorities have received little attention. Duncan and Duncan (1968) and Nam (1959) found large differences in occupation among ethnic groups but little difference in mobility after controlling for family background and education. Rosen (1959) found a correlation between achievement and motivation among ethnic groups, but Goeckel (1969), Goldstein (1969), and Duncan and Featherman (1972) found that differences in psychological factors did not seem to affect occupational achievements or income if education was held constant.

Among nonEuropean groups, Fogel (1966) found that large differences in earnings remain between Chicanos and Anglos (nonLatin whites) after educational differences were held constant. Lyle (1973) found evidence of labor market discrimination against Latins as well as against blacks. Poston and Alvírez (1973) examined a 1960 Census sample of full time nonfarm male workers aged 20 to 40 in five southwestern states, and found that Chicanos earned significantly less than Anglos even after education and occupation were held constant. In a later article, Poston, Alvírez, and Tienda (1976) found that the adjusted earnings difference between Chicanos and Anglos had increased between 1960 and 1970.

However, Niemi (1974a) found little difference among whites, blacks, and Chicanos in internal rates of return to education. This finding may be due to similar rewards to additional years of schooling, but it may also be due to racial differences in the opportunity cost of attending school or in mortality rates. Niemi (1974b) also found little evidence of labor market discrimination in earnings or occupation against blacks and Puerto Ricans in New York, once differences in productivity, as measured by schooling,

age, and achievement test scores, were held constant. Finally, Wong (1974) found lower earnings among some Oriental groups than among comparable whites.

The next section of this chapter discusses the importance of differences in personal characteristics in explaining racial earnings differences. The next section analyzes racial differences in the effect of education on earnings, and the following section discusses differences in the effects of other variables. Two additional sections explore racial differences in the ratio of earnings between federal government employees and other workers, and in labor force participation rates. A conclusion summarizes the results of this chapter and suggests the policies that would be most effective in narrowing earnings differences among the ethnic groups.

5.2 Differences in Characteristics

Table 5.1 presents data by race on total population, average earnings, and on selected characteristics which might contribute to the earnings differences. Earnings rather than wage rates will be used as the measure of achievement in this chapter because racial differences in hours worked per year probably reflect differences in unemployment or underemployemnt rather than different tastes for leisure.[1] However, to eliminate earnings differences which might result from retirement or school attendance, the sample on which all calculations have been made was restricted to nonstudent

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1. Moreover, Census data only provide information on annual earnings during the year preceding the Census, number of weeks worked during that year, and number of hours worked during the week preceding the Census survey. Hourly wage rates must be calculated from this very unsatisfactory data. See Jones and Husby (1976) for a detailed discussion of the biases which can result from using an imperfect measure of wage rates.

Table 5.1

Characteristics of Men by Race

	White	Black	Indian	PR	Chicano	Cuban	Japanese	Chinese	Filipino
Earnings	$8826	$5260	$5045	$5620	$6077	$6821	$9250	$8514	$5767
Education	11.6	9.5	9.7	8.6	7.6	10.5	12.7	11.8	10.8
Age	41	38	37	35	39	41	40	41	40
Immigrants	4.5%	1.4%	3.1%	88.0%	44.0%	95.0%	14.0%	62.0%	76.0%
Married, Spouse Present	81.0%	67.0%	69.0%	74.0%	78.0%	81.0%	73.0%	73.0%	59.0%
SMSA	59. %	69. %	39. %	92. %	74. %	96. %	92. %	92. %	85. %
Population (000)	15,490	2016	102	121	291	59	47	48	46

Note: These data were computed from the 1 in a 100 sample of the 1970 Census of Population for men 18 to 64 who were not students, were working during the week prior to the Census survey, and who had positive earnings in 1969.

men between 18 and 64 who had positive earnings in 1969.[2]

The annual earnings averages show that three groups are far ahead of the other six. The group that earns the most is not whites, but Japanese, with over $9200 in 1969, about $400 more than whites. Chinese men earned about $300 less than whites. The remaining six groups trailed far behind these top three. Cubans earned an average of $6800, over $2000 less than whites, while Chicanos earned less than $6100. Filipinos ($5800) and Puerto Ricans ($5600) earned even less. Finally, the poorest group was not blacks, with average earnings of almost $5300, but American Indians, who earned barely above $5000.[3]

It is clear from these data that the problem of low male earnings is not restricted to blacks alone. Indians, Puerto Ricans, Filipinos, and to a lesser extent, Cubans, all earn distressingly less than whites. On the other hand, two nonwhite groups, Japanese and Chinese, have been quite successful. Although the numbers require a model before their importance can be evaluated, the other data in Table 5.1 suggest that at least part of these earnings differences can be explained by differences in personal characteristics. Some of these characteristics are subject to influence by government policies. Other differences indicate that at least a small part of racial differences in earnings should not be a subject of concern. And still other racial differences in personal characteristics are problems. but probably cannot be affected by reformist government action.

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2. All the data used in this chapter come from the one in a hundred Public Use Sample of the 1970 Census of Population.

3. All differences between ethnic groups were statistically significant except those between whites and Japanese, Filipinos and Puerto Ricans, and blacks and Indians. See Appendix Table A5.1 for t statistics of the hypothesis that group i has earnings that are different from group j.

The most important characteristic which can be changed by government action is the level of education. The three successful groups are also the three groups with the most years of school completed. Average education for the men in this sample who were white was 11.6, for Japanese 12.7, and for Chinese, 11.7. Among the unsuccessful ethnic groups, blacks had 9.5 years, Indians had 9.7, Puerto Ricans 8.6, and Chicanos only 7.6. Although other obstacles may lie in the way of racial earnings equality, these enormous differences in average education must certainly be eliminated.

Fortunately, schooling is one characteristic which government policies can influence. More spending on college scholarships, remedial education, bilingual education, and vocational training directed at specific ethnic communities is sure to increase school attendance among groups with little education. Data presented in Table 5.2 indicate that current efforts in these areas are not sufficient. The percentages of men between 18 and 24 who are enrolled in school is still far lower for the groups with low earnings than for whites. Only 13 percent of young Puerto Rican men were students in 1970, compared with 37 percent of whites. Inequalities of the past are certain to continue into the future for blacks, Chicanos, Indians, and Filipinos as well, since all of these groups had enrollment rates between 25 to 28 percent. By contrast, the most successful nonwhite groups attend school far more often than do whites. Fifty six percent of Japanese men between 18 and 24 were students, and 71 percent of Chinese men.

The problem of inadequate levels of schooling is not confined to young men. In fact, for many minority groups, the educational gap with whites is much larger for older men than for the generation just entering

Table 5.2
Student Status by Race

	White	Black	Indian	PR	Chicano	Cuban	Japanese	Chinese	Filipino
Percent Students Men 18-24	38%	25%	26%	13%	25%	40%	56%	71%	28%
Percent with less than five years of school men 35-44	3%	9%	14%	18%	23%	6%	1%	6%	5%

Sources: 1970 Census of Population, PC(1), Part 1, Section 2, p. 608; PC(2)-1B, Tables 3 and 5; PC(2)-1F, Tables 3 and 5; PC(2)-1C, Tables 4 and 6; and PC(2)-1G, Tables 3, 5, 18, 20, 33, and 35.

the labor market. Unless we are willing to wait for equality until the current population of adults retires, we must also try to raise the level of schooling among adults. This schooling must include not just vocational training to give adults specific skills, but basic literacy and English classes as well. For instance, 23 percent of Chicano men between 35 and 44 and 18 percent of Puerto Rican men, had completed less than five years of school in 1970.[4] These men will continue to work for many years. Unless they can increase their basic literacy, they are unlikely to be able to acquire sufficient skills to support themselves or their families adequately even if adult vocational training should become available.

Another characteristic which probably contributes to racial earnings differences is age. The average ages for the three successful groups for men in this sample were 41 years for whites, 41 for Chinese, and 40 for Japanese. By contrast, Puerto Ricans on average were only 35, Indians 37, and blacks 38. A large number of earlier studies have found that earnings reach a peak for most occupations for men in their early 40's. If this is true for our ethnic groups, then these age differences could account for some part of the racial earnings differences.

Although government actions have little effect on the average ages of ethnic groups, earnings differences which arise from this source should hardly be of any concern. Differences in the effect of age among ethnic groups may be something which we might want to eliminate, but racial earnings differences which result from age differences themselves should be viewed as something natural and acceptable.

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4. 1970 Census of Population, PC(2)-1C, Table 6.

However, another characteristic over which the government has little influence is a subject of concern. Racial differences in marital status probably increase racial earnings differences, at least between some groups. Married men are likely to be more motivated than unmarried men, and therefore are likely to earn more. Among men in our sample, 81 percent of whites were married and living with their wives, versus 67 percent of blacks and 69 percent of Indians. Being married is not necessary for economic success, however. Only 73 percent of Chinese and Japanese men were married, compared to 78 percent and 81 percent for the much less successful Chicanos and Cubans.

Of course many other ill effects result from marital instability besides lower earnings for men.[5] Unfortunately, there is little that government can do directly to decrease minority, or for that matter white, divorce rates. Although eligibility rules for AFDC payments may provide an incentive for divorce, this effect is likely to be small and indirect. Compared to the potential influence over levels of schooling, the scope for government policy in decreasing divorce rates directly is small. Efforts to decrease racial earnings differences by decreasing differences in marital instability do not seem promising.

Another source of earnings differences among individuals works to increase the relative position of all the minority groups but Indians.

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5. Chinese and Japanese men have very low divorce rates, but high percentages of never married. Both never married and divorced or widowed men have been found to have lower earnings than comparable married men. See Chapter 3 for a fuller discussion of racial differences in divorce rates and some of their effects on female labor supply.

Because of tighter labor market conditions, men in metropolitan areas (SMSA's) generally earn more than comparable men elsewhere. 59 percent of white men in our sample lived in cities, 69 percent of blacks, 74 percent of Chicanos, 85 percent of Filipinos, and over 90 percent of Puerto Ricans, Cubans, Japanese, and Chinese. Only Indians received lower earnings than whites because of their location, since only 39 percent lived in cities.

One solution to the problem of low earnings outside cities is migration. This has been the most common solution not only among Indians, but also among poor whites in Appalachia and blacks in the rural south. However, the noneconomic costs of migration may be very high. The alternative, of bringing jobs to the people instead of forcing people to migrate to jobs in the city, should probably be given more emphasis than it has. The desirability of reducing metropolitan-nonmetropolitan earnings differences will be discussed in more detail below.

Nativity, another factor that may be associated with productivity and earnings differences among individuals, also varies widely among our ethnic groups. Only 1.5 percent of blacks and 4.5 percent of whites were immigrants, but 74 percent of Filipinos, 85 percent of Puerto Ricans, and 94 percent of Cubans were. Unlike schooling, marital status, or location, it is not possible to change where an individual was born. However, the effect of nativity on earnings can be changed by government policies which help immigrants to learn English or to find jobs in new labor markets. The need for such programs will be discussed below and in more detail in Chapter 6.

5.3 The Effect of Education on Earnings

Earnings differences among ethnic groups may be the result not only of differences in the average value of characteristics, but also in the rewards which these characteristics bring. To estimate these differences in rewards, regressions were run separately for each ethnic group with the log of annual earnings as the dependent variable.[6] As explained above, the sample was restricted to nonstudent men between 18 and 65 who had positive earnings during 1969 in order to limit the variation in earnings from voluntary causes such as retirement or school attendance. The independent variables included years of school completed, age, age squared, and dummy variables for four marital categories, three nativity categories, two location categories, and for having English as a mother tongue.

The marital categories were married spouse present, married spouse absent, widowed, and divorced. The nativity categories included men who had immigrated between 1965 and 1970, natives with at least one foreign born parent, and natives with native parents. The location categories were Southerners and residents of metropolitan areas. Thus the reference group consisted of never married Northern residents of nonmetropolitan areas who immigrated to the U.S. before 1965 who heard a language other than English spoken in their homes as children.

Education and the age variables are standard terms in earnings regressions, used to reflect productivity differences. The marital categories

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6. An F test comparing the residual variance from a regression with all ethnic groups together with the residual variance from these separate regressions led to a rejection of the hypothesis that all ethnic groups had the same earnings function.

reflect differences in motivation which might affect earnings through different numbers of hours worked per year as well as in how hard the individual works on the job. The location variables reflect differences in the level of labor demand in different markets. The nativity and language variables are also designed to reflect differences in skill and motivation.

The coefficients from these regressions, with their standard errors in parentheses below, are presented in Table 5.3. The results indicate that whites receive more for an additional year of schooling than the other groups. Chinese and Japanese men receive only slightly less, and the coefficients for blacks and Indians are about 85 percent as large as the white coefficient. However, the coefficients for Puerto Ricans, Chicanos, and Cubans range from 62 percent to 73 percent of the white coefficient, while the Filipino coefficient is less than half that of whites.[7]

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7. These findings for Cubans are dramatically different from earlier results in Carliner (1976). In that study, the coefficient on education was .069 for whites and .088 for Cubans, compared to .063 for whites and .038 for Cubans in the present study. The only differences between the two studies were minor changes in the specification of the age and marital status variables, the use of the 1971 Current Population Survey rather than the 1970 Census of Population, the inclusion of nativity variables and the exclusion of third generation Cubans in this study.

In regressions which did not include nativity terms, the education coefficient was .062 for whites and .047 for Cubans. Third generation Cubans could not be identified here because of differences in the Census questions, but their number is so small that it is hard to believe that could be the source of the differences in education coefficients. Puerto Ricans, blacks, and Chicanos were also included in the earlier study, but their education coefficients were more or less the same, relative to those of whites. The changes for Cubans far exceeds twice the standard errors of the coefficients. The cause of the difference between the two studies remains a mystery.

Table 5.3

Male Earnings Functions by Race

	White	Black	Indian	PR	Chicano	Cuban	Jap	Chinese	Fili
Educ	.063	.053	.054	.042	.046	.039	.059	.060	.030
	(.003)	(.002)	(.007)	(.004)	(.002)	(.005)	(.006)	(.005)	(.006)
Age	.112	.100	.093	.083	.095	.086	.140	.137	.078
	(.006)	(.004)	(.014)	(.009)	(.006)	(.013)	(.011)	(.014)	(.015)
Age^2	-.00126	-.00112	-.00106	-.00092	-.00108	-.00104	-.00154	-.00153	-.00084
	(.00007)	(.00005)	(.00017)	(.00011)	(.00007)	(.00015)	(.00014)	(.00016)	(.00018)
South	-.099	-.113	-.055	-.122	-.013	-.168	.035	.060	-.248
	(.027)	(.017)	(.058)	(.068)	(.097)	(.038)	(.133)	(.098)	(.085)
SMSA	.177	.316	.349	.051	.364	-.017	.257	.007	.031
	(.022)	(.018)	(.050)	(.054)	(.022)	(.097)	(.060)	(.082)	(.069)
Engl	-.007	.028	.088				.039	.117	.112
	(.034)	(.062)	(.050)				(.052)	(.097)	(.100)
PNB	-.048	(.085					-.067	-.127	-.353
	(.035)	(.090)					(.049)	(.075)	(.120)
NB	-.090	.180		.094	-.008	.176	.145	.266	.065
	(.058)	(.111)		(.044)	(.021)	(.087)	(.059)	(.056)	(.081)
Abroad	-.131	.047		-.071	-.184	-.306	-.084	-.229	-.218
	(.094)	(.065)		(.043)	(.037)	(.042)	(.081)	(.071)	(.065)
MSP	.556	.450	.727	.371	.594	.358	.348	.485	.542
	(.036)	(.023)	(.067)	(.042)	(.031)	(.064)	(.046)	(.065)	(.066)
MSA	.303	.163	.095	.070	.257	-.209	.261	.327	-.122
	(.085)	(.048)	(.143)	(.081)	(.055)	(.128)	(.125)	(.117)	(.092)
Widow	.391	.165	-.212	.159	.299	.467	.128	-.236	.016
	(.117)	(.056)	(.231)	(.174)	(.099)	(.312)	(.162)	(.190)	(.252)
D/S	.216	.168	.361	.072	.264	.207	.014	.458	.169
	(.064)	(.034)	(.110)	(.073)	(.055)	(.114)	(.119)	(.144)	(.122)
Constant	.839	.570	.521	1.461	.859	1.819	.027	.153	1.583
R^2	.303	.255	.237	.172	.275	.k93	.339	.355	.263
NOBS	3699	9098	1340	2518	5734	1291	1341	1012	885

Two explanations have been suggested for similar differences found between blacks and whites by earlier studies. Labor market discrimination against blacks may be more intense at higher educational levels. This discrimination may take the form of exclusion of blacks from well paid occupations, or it may result in blacks receiving less for an additional year of school within occupations. Alternatively, blacks may receive lower quality education than whites, so that an additional year of schooling does not result in the same increase in productivity.[7a] These two factors may also explain the low returns to education of some of the groups in this study.

Direct measures of the quality of schooling which individuals in our sample received are not available. One indirect proxy, however, may be nativity. Foreign education may be of lower quality, or at any rate of lower usefulness in American labor markets, than an American education. Since our groups differ so much in percentages of immigrants, their differences in education coefficients may stem partly from differences in rewards to education between natives and immigrants.

To examine this possibility, regressions were run which included a variable equal to years of school if the individual was a native, and zero for immigrants. This allows us to measure differences in returns to education between immigrants and natives while constraining the effects of the other independent variables to be the same. The new set of regressions was identical to the first set in all other respects.

As the coefficients presented in Table 5.4 show, ethnic differences in the effect of education on earnings are far smaller for natives than

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[7a] See for example Hanoch (1967), Weiss (1970), Welch (1967), Welch (1973), and Weiss and Williamson (1972).

for all men. Among all men, the range was from .030 for Chicanos to .097 for Chinese. Among natives, the range of education coefficients was from .050 for Chicanos to .079 for Chinese. Although substantial differences persist, it is clear that a large part of the original difference was due to the low returns to education which immigrants of some ethnic groups receive.[8] Most of the ethnic variation in education coefficients is among immigrants rather than natives. These results are consistent with the hypothesis that the quality of schooling varies more among people educated in several different countries than among native Americans, and that these quality differences cause different rewards to additional years of schooling.

At least part of the remaining differences in rewards to education may be the result of labor market discrimination. This discrimination may take the form of exclusion of minorities from well paying occupations, or it may result in fewer promotions within occupations. If it is the former, then we would expect a higher effect of education on occupational status as well as on earnings for whites than for minorities, but a lower effect on earnings once occupational status was held constant. Having a good education may not help minorities gain entrance to high status occupations as readily as whites, but once they overcome the occupational barriers, education may increase their earnings as much as or even more than it increases white intra-occupational earnings.

However, if racial discrimination occurs primarily within occupations,

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8. Chapter 6 discusses evidence on whether different returns for immigrants and natives are the result of differences in the quality of schooling or differences in the value of educational credentials.

then we should expect lower minority rewards to education whether or not occupation is held constant. This is also the pattern that would result from differences in rewards to education caused by quality differences in education. A low quality education should mean both less advancement to better occupations and fewer raises within occupations.

To distinguish between the occupational discrimination hypothesis on the one hand and quality and promotion hypotheses on the other, two additional sets of regressions were run for the nine ethnic groups. The first used the Duncan occupational status score as the dependent variable, and the same independent variables as those used for the regressions presented in Table 5.3. The second set used the log of earnings as the dependent variable, and included the Duncan score as an independent variable along with the standard set of variables measuring education, age, location, marital status, and nativity. The education coefficients from both set of regressions and the Duncan coefficients from the second earnings regressions are all presented in Table 5.4.

The results support the hypothesis that labor market discrimination reduces rewards to education for minorities by excluding them from well paid, high status occupations. The education coefficient from the Duncan regression was substantially higher for whites than for the ethnic groups with low education coefficients for natives in the earnings regression. The increase in Duncan scores for an additional year of education was about half as much for blacks, Indians, Puerto Ricans, and Chicanos as for whites.

However, the effect of education within occupations was larger for most of these groups than for whites. All education coefficients were lower in earnings regressions which included Duncan scores as an independent

Table 5.4

Education Coefficents

	White	Black	Indian	PR	Chicano	Cuban	Japanese	Chinese	Filipino
Earnings Regression									
Education Coefficient for Natives	.064	.054	.052	.052	.050	.062	.061	.079	.058
Duncan Regression									
Education Coefficient	.041 (.001)	.022 (.001)	.021 (.002)	.018 (.001)	.018 (.001)	.028 (.001)	.047 (.002)	.031 (.001)	.029 (.002)
Earnings Regression including Duncan Score									
Education	.034	.042	.038	.033	.036	.021	.028	.030	.008
Age Squared (X100)	-.116	-.110	-.101	-.092	-.103	-.097	-.145	-.135	-.071
Duncan	.755	.568	.829	.587	.629	.651	.677	.986	.796
Age at Peak Earnings	44	45	44	45	44	41	46	45	46

variable than in earnings regressions that did not, but the difference was larger for whites than for the unsuccessful minority groups. Thus education coefficients in this last set of earnings regressions were larger for blacks, Indians, Puerto Ricans, and Chicanos than for whites, even though they were lower in the other earnings regressions. This suggests that occupational discrimination prevents these groups from benefitting from their educations as much as whites do, but once they gain entrance to an occupation, they are at least as well rewarded for their schooling.

5.4 Effects of Age, Nativity, and Location

In general, the groups which receive low rewards for education are also the groups that receive the smallest rewards for experience. If age can be used as a proxy for experience, then differences in the steepness of the age-earnings hill will reflect different returns to experience. This steepness can be measured by the size of the coefficient on age squared.[9] Relatively flat curves with low rewards for experience will have low absolute values for this coefficient, while more sharply peaked curves will have large absolute values.

The group with the flattest age-earnings hill is Filipinos, with a coefficient on age squared that is only two thirds the size of the white coefficient. Puerto Ricans, Cubans, Indians, Chicanos, and blacks also

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9. The second partial derivative of the earnings function with respect to age is simply twice the coefficient of age squared. This is a measure of the rate of change of the slope of the age-earnings hill, that is, of its steepness. Since the signs of these coefficients for all nine groups are negative, all the curves are concave as they should be. The ages at which maximum earnings are reached ranges from 41 for Cubans to 46 for Filipinos.

have coefficients lower than whites, though by diminishing amounts. On the other hand, Chinese and Japanese men receive substantially greater rewards for experience than whites do. Their coefficients are over 20 percent larger in absolute value than the white coefficient.

These results are disturbing because they indicate that most Filipinos, Puerto Ricans, and to a lesser extent Cubans, Indians, Chicanos, and blacks, are trapped in jobs with little possibility of promotion or advancement. Jobs which do lead to a greater responsibility and greater earnings as the worker gains experience are usually more satisfying than dead end jobs in nonpecuniary ways as well as in terms of money. Therefore the flatness of the age-earnings hill for these other minorities suggests that they perhaps even more than blacks may be trapped in secondary labor markets and occupations which allow little development and growth.

Some men increase their earnings as they gain experience by moving up the occupational ladder, while others advance to higher earnings levels within the same occupation. To see which path is blocked for groups with flat age-earnings hills, another set of regressions was run, identical to the set on which Table 5.3 is based except for the addition of a measure of occupational achievement, the Duncan score. Since occupation is held constant in such regressions, the age coefficients should reflect returns to experience within an occupation. If ethnic differences in age coefficients and the steepness of the age-earnings hill disappear with the addition of the Duncan score, we can conclude that Puerto Ricans and Filipinos fail to benefit from experience because they are excluded from good occupations.[10]

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10. However, if the differences in coefficients do not diminish, no con-

The age squared coefficients from the new set of regressions, including Duncan scores as an independent variable, are shown in Table 5.4. Although they are lower than the age squared coefficients in regressions without Duncan scores for all groups but Puerto Ricans, the differences between whites and the other groups are not substantially changed. The ranking of the groups by the size of the coefficient is exactly the same in both sets of regressions. Therefore we cannot conclude that the groups with flat age-earnings hills fail to benefit from experience because they are prevented from moving into higher occupations as they age.

Nativity is the personal characteristic whose effect on earnings varies most among the ethnic groups. Its effect is measured by a set of four dummy variables described above. The coefficients in Table 5.3 should be interpreted as the difference in the log of annual earnings, other characteristics constant, between the ith nativity category and the reference group, men who immigrated to the U.S. before 1965. Thus the coefficient on Abroad reflects differences between immigrants who came between 1965 and 1970 and otherwise similar earlier immigrants. The coefficients on NB measure differences between natives and earlier immigrants, while the PNB coefficients measure the additional effect on earnings of having both parents native born. Finally, the coefficient on Engl measures differences between otherwise similar men who only heard English spoken in their childhood homes

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10. (cont.) clusions can be drawn. The differences may result from failure to advance within occupations for those groups with low coefficients, or they may be caused by nonlinear interactions between the steepness of the age-earnings hill and occupation. If these interactions exist, there may still be barriers to moving into higher status occupations even though differences in age coefficients do not decrease when occupations are held constant in a linear fashion.

and those who heard other languages.[11]

Several of the ethnic groups have large negative coefficients on Abroad. This indicates that recent immigrants of these groups may be having an especially hard time adjusting to new conditions during their first five years in this country. Differences between recent and earlier immigrants were large and statistically significant for Cubans, Chinese, Filipinos, and Chicanos. Since earnings for these immigrants rise sharply after they have gained more experience here, government programs designed to help them through the first years would probably have large benefits. Special English language courses for adults, job counselling, and extra help from employment agencies are all likely to increase earnings for recent immigrants dramatically.

Several of the ethnic groups, including some with large differences between recent and earlier immigrants, show little difference between earlier immigrants and natives. The coefficients on NB are small for Filipinos, and actually negative for Chicanos and whites, though none of these three coefficients is statistically significant. For other groups, including especially the Chinese and to a lesser extent blacks, Cubans, and Japanese, natives continue to earn substantially more than immigrants even after they have been here more than five years. Thus these earlier immigrants could also benefit from language classes and other services, but it may be very difficult to eliminate all the differences between them and natives with similar characteristics.

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11. Indians, Puerto Ricans, Chicanos, and Cubans had too few observations in some of these categories to include the full set of dummy variables in their regressions. Chapter 6 is devoted to analyzing earnings differences among nativity groups.

The final set of coefficients with policy implications measures the effect of location. With only three exceptions, the coefficients indicate that men living in the South or outside metropolitan areas earn less than similar men living elsewhere.[12] The largest differences are between city and country for Chicanos, Indians, and blacks. In spite of the very large migrations of recent decades, a large excess in the number of potential workers over the number of jobs must explain these differences. Other factors, such as lower prices outside cities, lower motivation of non-migrants, lower quality of education, poorer health, and other factors affecting productivity may also contribute to lower nonmetropolitan earnings, but such a large difference can only come from inadequate demand for labor. This would also explain the rural-urban migration.

The main solution to the problem of too few jobs outside large cities has in fact been migration. The private costs of moving people to jobs has clearly been less than the increase in private benefits. However, the social costs of migration have also been large, but they have not been included in individuals' decisions about moving. All the problems of urban overcrowding have been increased by rural-urban migration within the U.S. Robbing rural areas of their most energetic youth decreases the vitality of these communities, and must also be included as a social cost.

To correct the difference between private and social costs as well as to raise minority incomes, it may be desirable to subsidize the creation of jobs outside cities. To benefit minorities, these subsidies must be directed to areas with large concentrations of rural minority poverty such as

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12. The exceptions were all groups with very few men in the South or outside SMSA's. None of the three coefficients was statistically significant.

the rural South for blacks, rural Texas for Chicanos, and reservation areas for Indians. The subsidies can take the form of direct government employment for services which otherwise would not be done, such as military bases which are kept open to provide employment in depressed areas as well as to defend our country against aggression. Some highway and dam construction also includes subsidies of this sort. The number of jobs in depressed areas could also be increased via employment subsidies to private firms. Although the experience in this country and abroad with such subsidies has not always been successful, properly designed location incentives could have a considerable role in decreasing rural minority unemployment and poverty.

5.5 Government Employment

Several recent articles have examined differences between blacks and whites or men and women, in the effect of government employment on earnings or wages. Smith (1976) ran wage regressions separately for men and women. Her independent variables included education, experience, location, race, and a set of dummies for eight broad occupational categories. Holding occupation constant in this way, she found that federal government workers of both sexes earned significantly higher wages than private workers, and that the difference was greater for women. Using a similar set of industry and occupational dummies, Kalachek and Raines (1976) also found that male federal government employees earned significantly higher wages than similar private workers.

Hall (1971) ran wage regressions separately for white and black men and women. He found large and almost equal differences between non-post

office federal employees and private workers for the four race-sex groups. For post office workers, the difference was small but positive for white men, and large and positive for the other three groups. Like the other studies, Hall's regressions also included a set of occupational dummies. Finally, Long (1976) ran separate earnings regressions for federal and non-federal employees for whites and blacks. From these he computed black/white earnings ratios for government and private employees, adjusted for productivity differences between the races. Similar female/male ratios were also computed. Both ratios were higher for government employees. Though Long did not compute them, his results suggest that the government/private ratio is larger for blacks and women than for whites and men.

Federal government employment is different from other types of jobs in several ways that might affect different ethnic groups differently. The first is a different combination of wage levels, fringe benefits, and nonpecuniary rewards. Government employment is supposedly more stable than private sector work, and as a result somewhat less well paid. If blacks and other minorities suffer greater unemployment than whites, then they should be willing to sacrifice more money in order to have a stable job. For this reason, we should expect to find a lower government/private earnings ratio for blacks than for whites. Other ethnic groups with high unemployment rates, such as Puerto Ricans, Chicanos, and Indians, should also have a lower differential than whites.[13] Other differences in fringe benefits and working conditions, on the other hand, might be more attractive to whites than to other groups.

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13. See Table 4.3 in Chapter 4 for male unemployment rates by race.

A second important difference is that government operations are determined by political factors while private firms are subject to the pressures of competitive markets. On the one hand, these competitive pressures may force private employers to hire more minorities. In order to make a profit, employers cannot indulge their taste for discrimination, while government bureaucrats can. On the other hand, government bureaucrats will be more sensitive to political pressure to hire and promote minority workers. If the political pressure in favor of minorities has been stronger than the economic pressure in recent years, as seems likely, then we will find a larger government/private earnings ratio for minorities than for whites.

To see whether differences in government/private earnings ratios exist among our nine ethnic groups, an additional set of regressions was run. As before, the dependent variable was the log of annual earnings, and the independent variables included those listed in Table 5.3. These regressions also included a dummy variable equal to one if the individual worked for the federal government. The nongovernmental sector was thus defined to include state and local government workers as well as private sector workers. Separate regressions were run for each ethnic group. The coefficients on the government dummy (G) are shown in Table 5.5, along with the percentage of federal government workers for each race.[14]

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14. Differences in the percentage of federal government workers among races depends primarily on differences in location, and somewhat on skill differences. Japanese, Indians, Filipinos, and Chinese are concentrated in labor markets such as Hawaii with unusually high federal employment. The extremely high percentage of Filipino government workers is the result of a long standing relation between the U.S. Navy and Filipinos who obtain their government jobs in order to enter this country. This explains the concentration of unmarried Filipino men in such places as San Diego and Norfolk.

Table 5.5

Government Coefficients

	White	Black	Indian	PR	Chicano	Cuban	Japanese	Chinese	Filipino
Earnings Regression	-.191	.095	.032	-.116	.107	-.056	.027	.087	-.074
	(.040)	(.026)	(.068)	(.058)	(.040)	(.127)	(.054)	(.074)	(.059)
Wage Regression	.044	.168	.065	.137	.119	.147	.116	.149	.088
	(.045)	(.029)	(.074)	(.075)	(.041)	(.142)	(.058)	(.073)	(.070)
Federal Government Workers as percent of all workers	8.2%	10.4%	14.9%	7.4%	6.2%	2.6%	10.7%	10.2%	29.6%

These coefficients indicate that white men who work for the federal government earn substantially less than similar white men who work elsewhere. Although the differential is smaller, Puerto Rican government employees also earn significantly less. Two other groups, Cubans and Filipinos, also had negative coefficients, but they were not statistically significant. Blacks and Chicanos, on the other hand, had significant positive coefficients on the government dummy. The three remaining groups, Indians, Japanese, and Chinese, had positive but insignificant coefficients.

These findings are consistent with the following hypotheses. Most federal government workers, who are white, must accept lower earnings than they could receive in the private sector in order to obtain attractive fringe benefits and working conditions. This is also the choice facing men from ethnic groups who do not suffer from discrimination, or at least for whom discrimination is equal in public employment. For blacks and Chicanos, however, the two best organized and most vocal minority groups, political pressure has reduced the level of discrimination they encounter in government compared to the level elsewhere. Therefore they do not have to accept lower earnings in order to benefit from better government fringes and working conditions, and in fact can receive higher earnings than in the private sector.

These findings are consistent with Long's findings that the black/white earnings ratio is higher among federal than among private employees, and with Smith's conclusion that blacks benefit more from federal employment than whites. However, they are not consistent with findings by Smith, Hall, and Kalacheck and Raines that wage rates are higher for government workers

than private workers among white men. To see if this difference was the result of differences in dependent variables, another set of regressions using the log of hourly wage rates instead of annual earnings was run with the same independent variables. The government coefficients from these regressions are presented in Table 5.5, with standard errors in parentheses.

The signs of these coefficients are quite unexpected. All nine coefficients on G were positive, though those for whites, Indians, Cubans, and Filipinos were not statistically significant. The black coefficient was the largest, but the government/private ratio was larger for Cubans, Chinese, and Puerto Ricans than for Chicanos. Thus men of all nine races including whites, received higher wage rates in federal employment than they did in the private sector. Although the most politically powerful minority group, blacks, showed the largest government/private ratio, it was barely larger than the differential for relatively apolitical groups like the Cubans, Chinese, and Puerto Ricans.

The discussion above suggested that the stability of government employment should result in lower earnings than in the private sector. Other differences in fringe benefits or working conditions might operate to raise the government/private ratio , but the stability of employment can only operate to reduce it. This should be even more true for wage rates than for employment. If private sector workers expect more unemployment during a year than similar government workers, then they should demand higher wages in order to obtain the same level of annual earnings. Therefore the government/private ratio should be lower for wage rates than for annual earnings. The effect of fringe benefits and working conditions will

be the same for both measures. It is not clear why the earnings and wage regressions have produced opposite results, a larger government/private ratio for wage rates than for earnings.

5.6 Labor Force Participation Rates

The discussion above has focussed on racial differences in earnings among a sample of working men with positive earnings during 1969. An aspect of economic status ignored by the need to restrict the sample to working men is the differences among the races in labor force participation rates. This section offers a very brief analysis of the differences.

The likelihood that a man will work depends on a variety of economic and demographic factors, including especially his age, marital status, health, income from sources other than work, and net wage rate. The purpose of this section is not to estimate labor supply elasticities for unearned income or net wage rates, but merely to exclude demographic factors as the source of racial differences in participation rates.

Labor force participation rates for all men between 18 and 64 vary from a low of 75.5 percent for American Indians to a high of 90.9 percent for Cubans. Also near the top rates are Filipinos (89.8), whites (88.9), Japanese (88.6), and Chicanos (88.0). The remaining groups, blacks (81.2), Puerto Ricans (82.7), and Chinese (94.8), lie between the Indians at the bottom and the top group of five. Table 5.1 above indicated that substantial differences among the groups exist in age and marital status. Since life cycle characteristics often dominate work decisions of individuals, labor force participation rates were also calculated separately for married and

unmarried men by age. These rates are also presented in Table 5.6.

The columns of Table 5.6 indicate the typical patterns. Participation rates are considerably lower for unmarried men than for married men, at every age. For both married and unmarried men, participation rates start out low, rise during early or middle adulthood, and decline during later middle age. The peak is much sharper for unmarried men than for married. Although the patterns are very similar for the nine races, the levels are quite different.

To see how much of the difference in rates between whites and nonwhites is explained by differences in age and marital status, the nonwhite rates were divided by the white rates for each age and marital category. These percentages are presented in Table 5.7 for the eight nonwhite groups. They allow us to concentrate on racial differences rather than on age or marital differences in participation rates.

Several inferences are possible from this very simple treatment of the data. First, differences between whites and the three lowest groups, Indians, blacks, and Puerto Ricans, are not accounted for primarily by demographic differences. Most of the difference in total rates remains between specific age and marital categories. However, the differences are much larger for unmarried men, especially older unmarried men, than for married men. This suggests that such men may suffer from poorer health than comparable white men, or that they may have considerably more difficulty in finding or keeping jobs that pay adequately.

Second, the remaining group with below average participation rates, the Chinese, have participation rates that exceed white rates considerably for older men. It is younger Chinese men, especially the unmarried, who work

Table 5.6

Labor Force Participation Rates

	White	Black	Indian	PR	Chicano	Cuban	Japanese	Chinese	Filipino
Unmarried									
18-24	.653	.614	.521	.624	.691	.693	.625	..531	.788
25-34	.820	.757	.713	.756	.823	.857	.893	.904	.943
35-44	.870	.718	.602	.783	.779	.934	.959	.836	.880
45-54	.838	.739	.565	.743	.753	.837	.889	.917	.913
55-64	.679	.583	.525	.673	.633	.786	.700	.795	.697
Married									
18-24	.957	.926	.874	.876	.956	.927	.758	.920	.917
25-34	.986	.950	.923	.936	.965	.980	.938	.957	.978
35-44	.984	.954	.912	.917	.961	.978	.980	.984	.953
45-54	.957	.910	.853	.875	.929	.958	.991	.980	.970
55-64	.833	.795	.690	.704	.823	.826	.877	.844	.907
TOTAL	.889	.812	.755	.827	.880	.909	.886	.848	.898

Sources: 1970 Census of Population, PC(2)-1B, Table 4; PC(2)-1F, Table 4; PC(2)-1C, Table 7; PC (2)-1G, Tables 6, 19 and 34.

Table 5.7

Relative Nonwhite Labor Force Participation Rates

	Black	Indian	PR	Chicano	Cuban	Japanese	Chinese	Filipino
TOTAL	91.3	84.9	93.0	99.0	102.2	99.7	95.4	101.0
Unmarried								
18-24	94.0	79.8	95.6	105.8	106.1	95.7	81.3	120.7
25-34	92.3	87.0	92.2	100.4	104.5	108.9	110.2	115.0
35-44	82.5	69.2	90.0	89.5	107.4	110.2	96.1	101.1
45-54	88.2	67.4	88.7	89.9	99.9	106.1	109.4	108.9
55-64	85.9	77.3	99.1	93.2	115.8	103.1	117.1	102.7
Married								
18-24	96.8	91.3	91.5	99.9	96.9	79.2	96.1	95.8
25-34	96.3	93.6	94.9	97.9	99.4	95.1	97.1	99.2
35-44	97.0	92.7	93.2	97.7	99.4	99.6	100.0	96.8
45-54	95.1	89.1	91.4	97.1	100.4	103.6	102.4	101.4
55-64	95.4	82.8	84.5	98.8	99.2	105.3	101.3	108.9
Percent in school								
18-24	25%	26%	13%	25%	40%	56%	71%	28%

Sources: Relative labor force participation rates were calculated from Table 5.6. School enrollment from U.S. Bureau of the Census, Statistical Abstract (1975), Table 183; 1970 Census of Population, PC(2)-1B, Table 3, PC(2)-1F, Table 3, PC(2)-1C, Table 4. and PC(2)-1G, Tables 3, 18, and 33.

less often than whites. The probable explanation for this is differences in university attendance. In 1970, 71 percent of Chinese men between 18 and 24 were enrolled in school, versus only 37 percent of white men that age. The only other group with a much higher percentage of students than whites, Japanese with 56 percent of 18 to 24 year olds enrolled in school, also have higher participation rates than whites for most groups of older men, but lower rates for younger men.

However, low rates of school attendance do not seem to boost labor force participation rates among other groups. Puerto Ricans (13 percent), blacks, Indians, Chicanos, and Filipinos (with 25, 25, 26, and 28 percent respectively) work no more often, relative to whites, when they are young than when they are older. The one exception to this may be young unmarried Chicanos.

Thus racial differences in labor force participation rates are not primarily the result of differences in age or marital status. The groups with very high percentages of men, especially unmarried men, who do not work, Indians, blacks, and Puerto Ricans, are also the men with the lowest earnings and occupational status among men who do work. It seems likely that these men, not having families to support, have been pushed out of the labor force by high unemployment rates, poor health, or unattractive jobs paying low wages. However, analysis and data which might show this are beyond the scope of this study.

5.7 Conclusion

The results of this chapter indicate that Puerto Ricans, Chicanos, Indians, Filipinos, and Cubans have many of the same problems as blacks. However, the importance of different problems varies among the groups, and some have handicaps that blacks do not face. Government programs designed to help one group may not be very effective in meeting the needs of another group.

For instance, raising levels of schooling to the white average would do little to improve the earnings of Cubans and Filipinos, since they already have almost as much education as whites. However, increased education would be especially helpful to Puerto Ricans and Chicanos. Their levels of schooling are dramatically lower than white levels for all age groups. A large percentage of prime age Puerto Rican and Chicano men have so little schooling that they are unlikely to benefit from any other programs until they receive at least a grade school education. Nonvocational adult education is probably a necessary first step in improving the earnings abilities of large numbers of these men.

Moreover, educational disparities are being perpetuated among the current generation. Blacks, Indians, Chicanos, Filipinos, and especially Puerto Ricans, attend college far less often than whites, Cubans, Chinese, and Japanese. Unless these differences are reduced via improved scholarship programs, remedial education, and other encouragement for minorities to continue in school, racial earnings differences based on education differences will continue far into the future.

Low rewards to education for immigrants suggest that special English

language classes might be especially useful for Puerto Rican, Chicano, Cuban, and Filipino immigrants. Other aid to recent immigrants, such as job counseling, help in finding jobs, and perhaps special courses to enable immigrants to adapt their existing training and skills to American conditions would probably ease the transition for Cubans, Chinese, Filipinos and Chicanos in their first years in this country.

Comparisons of earnings differences within and between occupations suggest that occupational discrimination is important in explaining low returns to education and low earnings for blacks, Puerto Ricans, Chicanos, and Indians. Puerto Ricans and Filipinos, and to a lesser extent blacks, Chicanos, Indians, and Cubans, received lower rewards to experience than did whites. Labor market discrimination may be the cause of this, but if so, it is discrimination within occupations rather than discrimination which excludes these groups from occupations with large possibilities for advancement. Thus, programs to eliminate occupational discrimination would raise the earnings of Puerto Ricans, Chicanos, and Indians as well as of blacks. They would also increase rewards to education for these groups. However, they would not improve low returns to experience. Additional programs to prevent discrimination in promotions within occupations may be necessary for that. Finally, programs to increase the number of jobs in rural areas would be most effective for Indians. They would also benefit rural blacks and Chicanos.

Table 5A1

T-Statistics of Male Earnings Differences

	Black	Indian	PR	Chicano	Cuban	Japanese	Chinese	Filipino
White	33.7	25.6	25.0	23.3	11.9	-.894	4.65	18.3
Black		1.93	- 5.86	-13.7	-11.3	-23.4	-13.5	- 4.09
Indian			- 5.36	- 9.30	-10.4	-20.8	-12.9	- 4.57
PR				- 4.77	- 7.13	-18.9	-10.4	- 0.484
Chicano					- 4.48	-17.0	- 8.44	2.58
Cuban						-10.5	- 4.33	5.43
Japanese							4.73	15.6
Chinese								8.83

CHAPTER 6

Acculturation and Motivation: Earnings of First, Second, and Third Generation American Males

6.1 Introduction

The traditional view of the economic status of immigrants has been that new arrivals entered the American economy with a severe disadvantage. Their children, the second generation, moved up the social ladder somewhat, but still lagged behind natives whose parents were also natives. This process of gradual catching up was thought to continue for one or two generations more before the gap between descendents of immigrants and the descendents of earlier immigrants was completely eliminated.

However, not all the evidence supports this view. Using 1950 Census data, Nam (1959) analyzed the occupational attainment of first and second generation European men identified by country of origin, and compared them with all third generation whites. After controlling for age and location, he found the expected substantial increases in status from the first to the second generation for most ethnic groups, and small increases for the others. However, he also found that second generation men from most of his ethnic groups had higher status occupations than his third generation. In fact, two first generation groups also had higher occupation status than the third generation.

Using the same data, Leiberson (1963) did not even find a clear pattern of improvement in occupational achievement from the first to the second generation among European ethnic groups. He controlled for age and location by presenting group averages by generation and ethnic group for men 25 to 44 in ten large cities. Although men from Italy, Russia, Ireland, and Sweden generally improved, English, German, and

Polish men declined. Duncan and Duncan (1968), however, found lower occupational achievement among the second generation than among the third.

More recently, Kalacheck and Raines (1976) were surprised to find that immigrants earned more than natives in 1969, after a host of personal characteristics and labor market conditions were held constant. Chiswick (1977) reported that the earnings of the second generation exceeded the earnings of the third in 1970, once education, experience, and location were held constant.

Similar patterns have been reported for migrants within the U.S. Although Lansing and Morgan (1967) found that migrants have lower incomes than nonmigrants in the same community, Masters (1972) found that black migrants from the South to Northern cities earned more than northern black nonmigrants in 1960. However, black men who had migrated during the five years preceding the survey did worse. Similarly, Wertheimer (1970) found that migrants from the South to the North earned more than northern nonmigrants five years or more after their move, but not before then.

This chapter will use 1970 Census data to examine the relative earnings of recent male immigrants, immigrants who came here before 1965, the second generation, and the third generation. Comparing four nativity groups instead of the two or three available to earlier researchers will give us a more complete picture of the pattern of acculturation, and hopefully will shed some light on the factors which explain it. Furthermore, extending the analysis to immigrants from Latin America and Asia is also better than a study restricted to Europeans alone.

6.2 Hypotheses

Human capital theory provides a model which fits the standard picture of the acculturation of an immigrant and his children over time. Just as workers acquire productive skills both from formal education and from work experience, immigrants gain useful knowledge the longer they live here. By making investments in themselves, they can increase their market productivity and their attractiveness to employers. The longer they are here, the greater the level of these investments and the higher the level of earnings.

This process of acculturation--increasing levels of investments--need not end with the immigrant himself, but may continue for some generations more. Learning to speak English may be the largest investment in time and effort for an adult immigrant. Other aspects of acculturation that must wait till the next generation may include learning to speak fluent English without an accent, making wide contact with natives who can provide information about job possibilities, or increasing investments in formal education.

The analogy between the changes in human capital over the lifetime of an individual and several generations of immigrants and their descendents is not perfect, however. The human capital of an individual depreciates through increasing ill health, obsolescence of the individual's stock of knowledge, or declining physical strength. This results in the typical concave age-earning hill. In looking at the accumulation of human capital over several generations, on the other hand, no such depreciation will occur.

Moreover, there is no counterpart to the incentive which an individual has to make to investments early in his life in order to have as long

a time as possible to earn a return on them. Second and third generation workers can expect to live just as long, and to work for as many years, as immigrants. Thus, investments in acculturation may not be concentrated in the first generation, but may actually increase over time. If so, the rate of increase in earnings between generations may actually increase, instead of decrease as with individuals in their middle years, and the generation-earnings curve may be convex. Whatever the sign of the second derivative of this curve, the first derivative should always be non-negative if human capital theory adequately explains the process of acculturation. If earnings are lower for later generations, then some other explanation is also required.[1]

Factors associated with acculturation and human capital theories all tend to produce increasing earnings with successive generations, but several other forces tend to operate in the opposite direction. First, several studies have shown that differences among labor markets as well as differences between individuals in personal characteristics can be an important source of earnings differences.[2] Since immigrants, and for that matter native migrants, are likely to move to relatively high wage, booming labor markets, they are likely to have higher wage rates and earnings than nonmigrants, other things equal.

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1. Another way in which acculturation may be different from human capital models (in which human capital models may not describe the process of acculturation accurately) is that much of the knowledge and skills helpful in US labor markets may be acquired effortlessly. Human capital theory assumes that increases in productivity involve some sacrifice, either of leisure, or foregone earnings. An immigrant who takes time off from work, or gives up leisure in the evening to attend English classes fits the human capital picture, but a child who learns English on the block while playing does not. Most acculturation is probably of the latter type. See Blaug (1976) for further comments on this weakness of human capital theory with respect to other forms of experience.

2. See for an example, Kalacheck and Raines (1976).

Because labor and capital are not completely mobile, labor markets can remain out of equilibrium for extended periods of time. The most recent migrants, especially those immigrants who entered the country during the previous five years, are most likely to be in the best labor markets, but earlier immigrants and even second generation workers may also benefit from very long-run disequilibrium conditions. If third generation Americans are disproportionately in rural or small town areas, while the second generation is in older cities, and recent immigrants tend to be in the fastest growing cities, there will tend to be an inverse correlation between earnings and generation. The higher the generation, the lower the earnings, other things equal.[3]

Another source of disadvantage to natives, at least black natives, may be a heritage of discrimination, or a culture of poverty. It has often been suggested that part of the differences between blacks and whites is due not to current discrimination in labor markets and elsewhere, but to discrimination in the past. If discrimination exists at present, both immigrants and natives will suffer. But past discrimination which has produced a culture of poverty will affect only natives. This past discrimination against blacks may have created patterns of behavior that reduce productivity and wage rates among current workers, in addition to whatever current labor market discrimination they face. Therefore, if second or third generation workers earn less than immigrants among ethnic groups who suffer or have suffered from discrimination, then the culture of poverty hypothesis receives some support. If

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3. To some extent this phenomenon can be controlled by using location variables, but some of it is likely to be picked up by generation variables unless the sample is restricted to one labor market. Since controls are also needed for other factors, doing this would reduce the sample too much.

this pattern does not exist, or if it exists for all ethnic and racial groups, including those who have not suffered discrimination, then we can conclude that the evidence of this study does not indicate any culture of poverty.

The final, and probably most important, advantage that immigrants have over natives, is greater motivation.[4] They are clearly more motivated than people from their homelands who did not emigrate, as evidenced by their having left. Presumably they are also more motivated than nonmigrants in the communities to which they come. The same personality characteristics which resulted in their uprooting themselves from their childhood homes, moving to a foreign country with a strange language and perhaps strange customs, should also result in greater work effort in American labor markets.

Whatever the source of these differences in motivation, the advantage to immigrants is likely to decrease with succeeding generations. Both genetic and environmental influences may persist for the lifetime of the immigrant and even be passed on to his children to some extent, but after two generations. It seems likely that no differences between grandchildren of immigrants and longer established natives would continue. The regression to the mean should be complete within three generations.[5]

Another test of the human capital and screening hypotheses depends on generational differences in occupational achievement. If credentialling is important, then immigrants should have difficulty gaining entrance to high status occupations. Thus differences in occupational status between immigrants and natives should be even larger than earnings

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4. See Fogel (1974), Piore (1974), and North (1974) for comments by employers and others on this.

5. See Li (1974) for evidence on the speed of a regression to the mean for genetic factors.

differences, and differences in the effect of education between immigrants and natives should be even larger using occupational status as the measure of achievement than using earnings. Comparing two sets of regressions, one using Duncan scores as the dependent variable and the other using earnings or wage rates, should thus shed light on whether education serves primarily to increase the human capital and productivity of immigrants and natives, or whether it is simply a credentialling or screening mechanism.

To summarize different hypotheses explaining patterns of earnings by generation, a human capital theory would suggest increasing achievement with succeeding generations. Disequilibrium conditions in labor markets should increase the earnings of immigrants, other things equal, since they will have moved more recently than most natives. This factor can be partially controlled for by using location variables in earnings regressions, but some of it may still be picked up by the generation variables. Among racial groups who suffer from discrimination, a culture of poverty theory might predict lower achievement among natives than among immigrants, since both may suffer from discrimination currently, but only the natives will have suffered from it in the past. Higher motivation may be likely for immigrants of all races, however, so if immigrants earn more than second and third generation workers of all races, we can infer that the pattern is caused by a regression to the mean rather than a culture of poverty among natives.

6.3 Data

Data for this study come from the one in a hundred sample of the 1970 Census of Population. Information recorded by the Census Bureau allows

classification of people into four nativity categories, or "generations." Recent immigrants are those who came to the United States during the five years preceding the Census survey date, i.e., between 1965 and 1970. Earlier immigrants came before 1965. The second generation consists of men who were born in the U.S. but who had at least one immigrant parent. The third generation includes all natives whose parents were also natives. Since no information was available on the place of birth of grandparents, it was not possible to distinguish between third generation Americans and men whose families have been here much longer. In any event, it seems likely that most changes due to nativity will have worked themselves out after three generations.

Separate Census questions also identify whites, blacks, Japanese, Chinese, and Filipinos, regardless of their generation. Three additional groups, Puerto Ricans, Chicanos, and Cubans, are also included separately in this study, even though they could only be identified if they or their parents were immigrants. If they were third generation, there was no way to distinguish them from other third generation whites or blacks, and it was not possible to trace the pattern of achievement beyond the second generation for the three Latin groups.[6]

In the following analysis and discussion, these eight groups will be treated separately for several reasons. The first is the need to separate racial discrimination from problems of acculturation and discrimination against immigrants. Immigrants of different races may receive quite different treatment in labor markets because of racial discrimination. Certainly natives differ systematically in what deter-

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6. For the first two generations, the category white includes only nonLatin men, and should perhaps be called Anglo instead of white. Therefore a small number of men from these three groups were incorrectly classified, usually with whites. American Indians are not included in this chapter because almost all of them were third generation.

mines the level of their earnings. It would be possible to allow for a full set of race-generation interactions, but it seems preferable to allow the other independent variables in the earnings functions to be unconstrained as well. Substantial research on education has indicated that the effect of years of schooling can vary substantially among ethnic groups.[7]

The different groups tend to be concentrated in only a few labor markets.[8] It was argued above that differences in labor market conditions might not be held entirely constant by the limited location variables, but might be picked up instead by generation variables. This will be a lesser problem if each regression includes only one ethnic group, since natives as well as immigrants of several of the ethnic groups tend to be concentrated in only two or three labor markets. Since there are good reasons for expecting interactions between race and generation, education, and location, it seemed sensible to allow for full interactions for the remaining independent variables as well.

A second reason for treating different ethnic groups separately, both in regressions and in discussion, is that the problem of illegal aliens is much greater for certain groups than for others. Since the data used in this study were collected by the U.S. government, it seems very likely that illegal aliens refused to answer the survey questions, and thus are underrepresented in the sample. If illegal immigrants have different characteristics than legal immigrants, or if they have different experiences in this country because they are here illegally, then conclusions based on a sample unrepresentative of the total pop-

7. See, for example, Weiss (1967), Welch (1971), Wong (1974) and Carliner (1976).

8. See Chapter 2 for more information on this.

ulation of immigrants are subject to serious reservations. If all ethnic groups were treated together, this problem would contaminate the results of all.

Treating the eight ethnic groups separately, however, allows us to avoid some of these difficulties. For instance, there are no illegal immigrants from Puerto Rico, since all Puerto Ricans are American citizens with unrestricted migration rights whether they are born in New York or San Juan. Similarly, virtually all Cubans are here legally, because the normal barriers to immigration from Latin America were dropped for them because of their special political situation. Furthermore, North and Houston (1976) present evidence that the overwhelming majority of illegal aliens are either from Mexico or some other Western Hemisphere country. The latter immigrants are not included in this study, but admittedly, the problem of underrepresentation of illegals is likely to be serious for Chicanos. However, it seems safe to infer that the percentage of illegal immigrants is not large for the Eastern Hemisphere racial groups included in this study. One final piece of encouraging evidence is Piore's (1974) suggestion that in 1970, when the Census data were collected, there were many fewer illegal aliens than today, so that our sample may not be unrepresentative of the immigrant population in that year.

The final reason for analyzing the eight racial and ethnic groups separately is social and political interest in them. Concern for the economic welfare of minorities focusses on racial and ethnic minorities, not on immigrants <u>per se</u>. If newcomers need help in adjusting to American society, it is as Puerto Rican, Chicano, or Chinese newcomers, not simply as immigrants. Their experiences are most useful in understanding the experiences of Puerto Rican, Chicano, or Chinese natives,

not the economic achievement of natives of all ethnic and racial groups. And if different groups of immigrants, or natives, require help in adjusting to American society and succeeding in labor markets, this help must be tailored to fit the needs of the different ethnic communities. Ignoring race and concentrating only on generation implicitly assumes that the acculturation process is the same for all groups, when in fact it is likely to vary widely. Therefore, all tables, regressions, and analyses present results separately for the eight racial or ethnic groups.

6.4 Earnings by Generation

Figure 6.1 (based on Appendix Table 6A1) shows average annual earnings by race for the four nativity groups, for nonstudent men between 18 and 64 who had positive earnings in 1969. In spite of their very different levels of earnings, patterns of immigration, discrimination, and education, all eight groups have similar generation-earnings curves. Recent immigrants earn relatively little. Earlier immigrants earn a great deal more. The change in earnings between earlier immigrants and the second generation is relatively small, and for whites it is in fact negative. And for the five groups with an identifiable third generation, there is a sharp decline from the second to the third generation.[9] Indeed third generation Japanese and Filipino men earn

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9. t tests of the differences between generations within an ethnic group were significant in almost all cases. Earnings were used as the measure of economic achievement rather than wage rates because a large part of the cost of immigration may result from higher unemployment or

less than recent immigrants of those groups. All the ethnic groups have the concave pattern remarkably similar to the familar age-earnings hill. Aside from the very different levels, the primary differences

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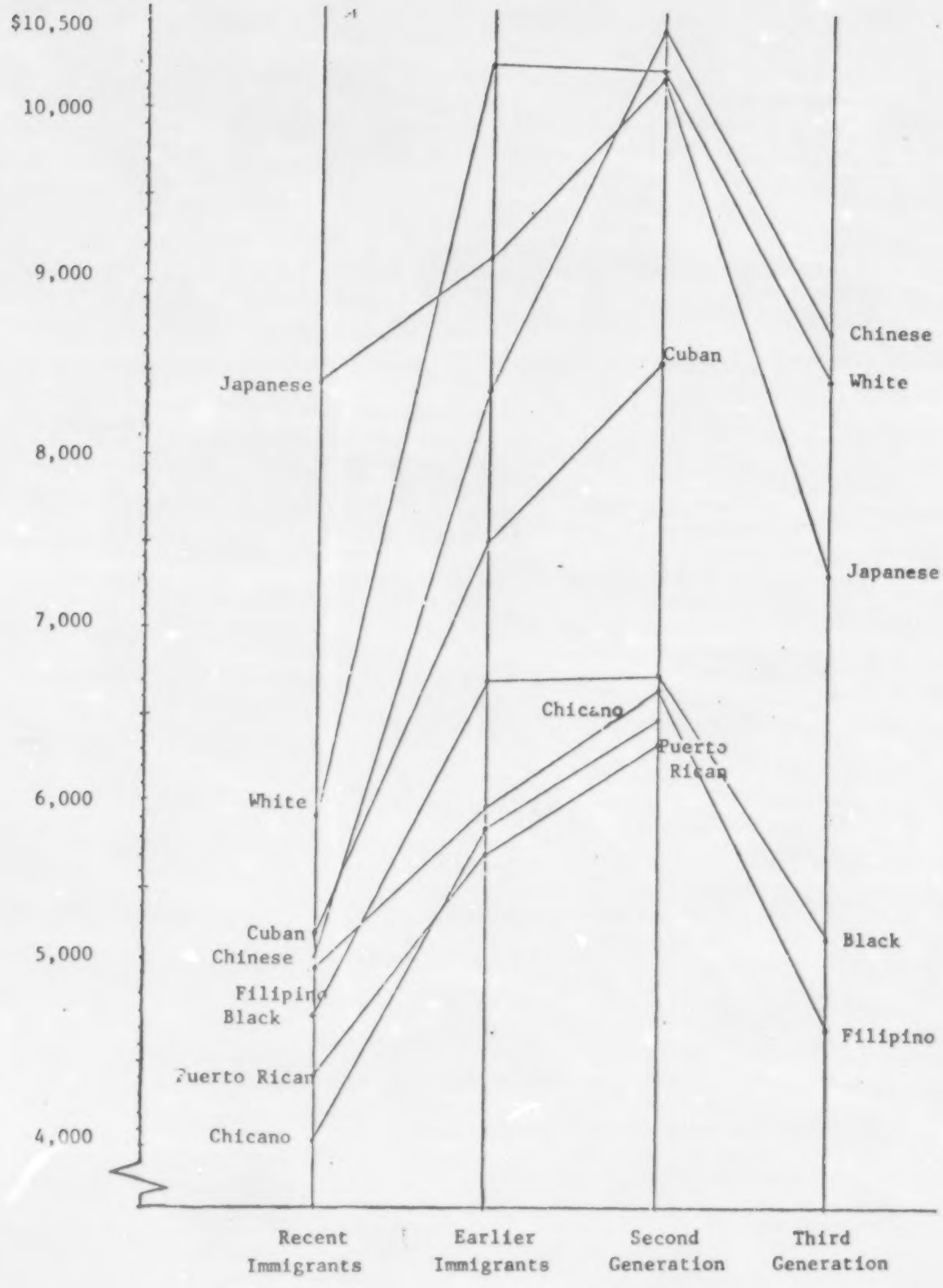
footnote 9 continued:

underemployment due to lack of familiarity with American labor markets. Data presented in Table 6A7 on the average number of hours worked during the week prior to the Census survey are consistent with this possibility. They show that recent immigrants worked fewer hours than earlier immigrants among seven of the eight groups, and fewer hours than the second generation among half the groups. However, the third generation worked fewer hours than recent immigrants among four of the five groups with three identifiable generations.

Unfortunately, Census data do not provide information on the reason for part time work. Therefore, it is not possible to distinguish between low hours due to unemployment and low hours due to other causes. The sample for which average hours were calculated excluded students, so a major source of voluntary part time work has been eliminated, but other nonmarket activities, including pure leisure, may still account for the differences. It may be that recent immigrants work less because of the difficulties finding jobs, but that the third generation works less because of a greater taste for leisure. However, the opposite possibility is also consistent with the meager data available. In any event, using wage rates instead of earnings produces the same pattern between generations.

Figure 6.1

Earnings by Generation and Ethnicity



among the eight ethnic groups in this pattern is the increase from earlier immigrants to the second generation.

These statistics hardly fit the standard picture of a gradual improvement in achievement of immigrants over several generations. It is true that recent immigrants seem to be at a disadvantage when they first arrive, but earlier immigrants do surprisingly well compared to natives, in several cases earning more. Equally surprising is the finding that the second generation earns more than the third. The speed of acculturation and adaptation to American labor markets implied by these data are thus much faster than studies from earlier decades have found.

However, it is not clear to what extent this pattern is the result of differences in acculturation or motivation, and to what extent it is simply the result of demographic differences in average age among the nativity groups.[10] For all groups but Cubans, recent immigrants not only have the lowest earnings, but also the lowest age. Earlier immigrants and the second generation both tend to be considerably older, with the third generation in between. In the relevant age ranges, the effect on earnings of increased experience generally outweighs the effect of increased sickness or obsolescence of a worker's stock of knowledge. Therefore, groups with higher than average ages would tend to have higher than average earnings, other things equal.

Similar differences among the generations exist in marital status as well.[11] Earlier immigrants and the second generation are most

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10. See Appendix Table 6A2.

11. See Appendix Table 6A3.

often married, with the third generation somewhat lower, and recent immigrants most often single. Since married men generally have more motivation than unmarried men, they tend to have higher earnings. Thus the higher earnings of earlier immigrants and the second generation may stem in part from the fact that they are older and more often married. If this were so, then the curves in Figure 6.1 would indicate little about the human capital, motivation, or speed of acculturation of different generations.

To isolate the effect of generation from the effect of demographic variables, it is necessary to measure both generation's direct effect on earnings, and its indirect effect through education. A worker's education may depend on his generation, and his earnings may depend on his generation, education, and demographic characteristics. One possible specification is

$$(1) \qquad S = \alpha G + u$$

$$(2) \qquad E = \beta_o + \beta_s S + \beta_d D + \beta_3 G + v$$

where S is years of schooling, E is the log of annual earnings, G and D are vectors of dichotomous and continuous variables measuring the individual's generation and demographic characteristics, and u and v are error terms.[12] To estimate the total effect of generation on earnings, (1) and

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12. G includes dummy variables identifying recent immigrants, the second generation, the third generation, and men who heard no language other than English in their childhood home. It was assumed that only the third generation were native English speakers using this definition. D includes age, age squared, and dummy variables for four marital categories, living in the South, and in a metropolitan area. The reference group was never married earlier immigrants who lived outside the South and outside metropolitan areas. Complete results are available on request from the author.

(2) are estimated, the imputed value of education from (1) is substituted into (2), and earnings by generation are imputed using the entire sample's average values for the demographic characteristics.

$$(3) \qquad \hat{E}_g = b_o + b_s \hat{S}_g + b_d \bar{D} + b_3 G$$

This imputed value for earnings by generation is the value which would be obtained if the different generations were similar with respect to age, marital status, and location, and differed only in education. Holding education constant by allowing $\hat{E}_g$ to differ only by $b_2 G$ is inappropriate, since an important part of acculturation may arise through differences in education. Since S is highly correlated with D as well as with G, omitting S from (2) would produce biased coefficients for both other variables. Thus the correct method for measuring both the direct and indirect effects of generation on earnings is the two stage method used here.

6.5 Human Capital, Culture of Poverty, or Regression to the Mean

Figure 6.2(based on Appendix Table 6A4) presents earnings adjusted in this fashion, calculated from separate regressions for each of the eight ethnic groups. The relative adjusted earnings of the different generations are still concave, but the pattern is less pronounced than for the unadjusted earnings presented in Table 6.1 and Figure 6.1.[13]

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13. Part of the narrowing of differences between generations is the result of controlling for demographic differences, but part is due to using geometric instead of arithmetic means.

If E_1 and E_2 are the adjusted earnings for recent and earlier immigrants of the same ethnic group, then a test of the hypothesis that they differ is found by calculating

Six of the eight groups show substantial increases in adjusted earnings between recent and earlier immigrants, but for blacks and Japanese there is a slight decrease. As with unadjusted earnings, seven of the eight groups show an increase between earlier immigrants and the second generation, though the differences are smaller than before. And again, all five groups with third generations, and three of the five whites, blacks, and Filipinos, show a considerable decline between the second and third generations, and three of the five whites, blacks, and Filipinos, show lower adjusted earnings for the third generation than for recent immigrants.

These adjusted earnings data suggest that for most ethnic groups, a large part of adjustment and acculturation to American labor markets takes place within the lifetime of the immigrant himself. For several of the groups, there is a further improvement in earnings for the sons of immigrants, though this increase is generally smaller than the first.

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footnote 13 (continued)

$$t = \frac{\hat{E}_2 - \hat{E}_1}{\sqrt{\text{var } (\hat{E}_1) + \text{var } (\hat{E}_2) - 2 \text{ cov } (\hat{E}_1 \hat{E}_2)}}$$

where $\text{var } (\hat{E}_1) = \text{var } b_1 + b_s^2 \text{ var } (S_i) + b_s \text{ cov } b_i S_i$

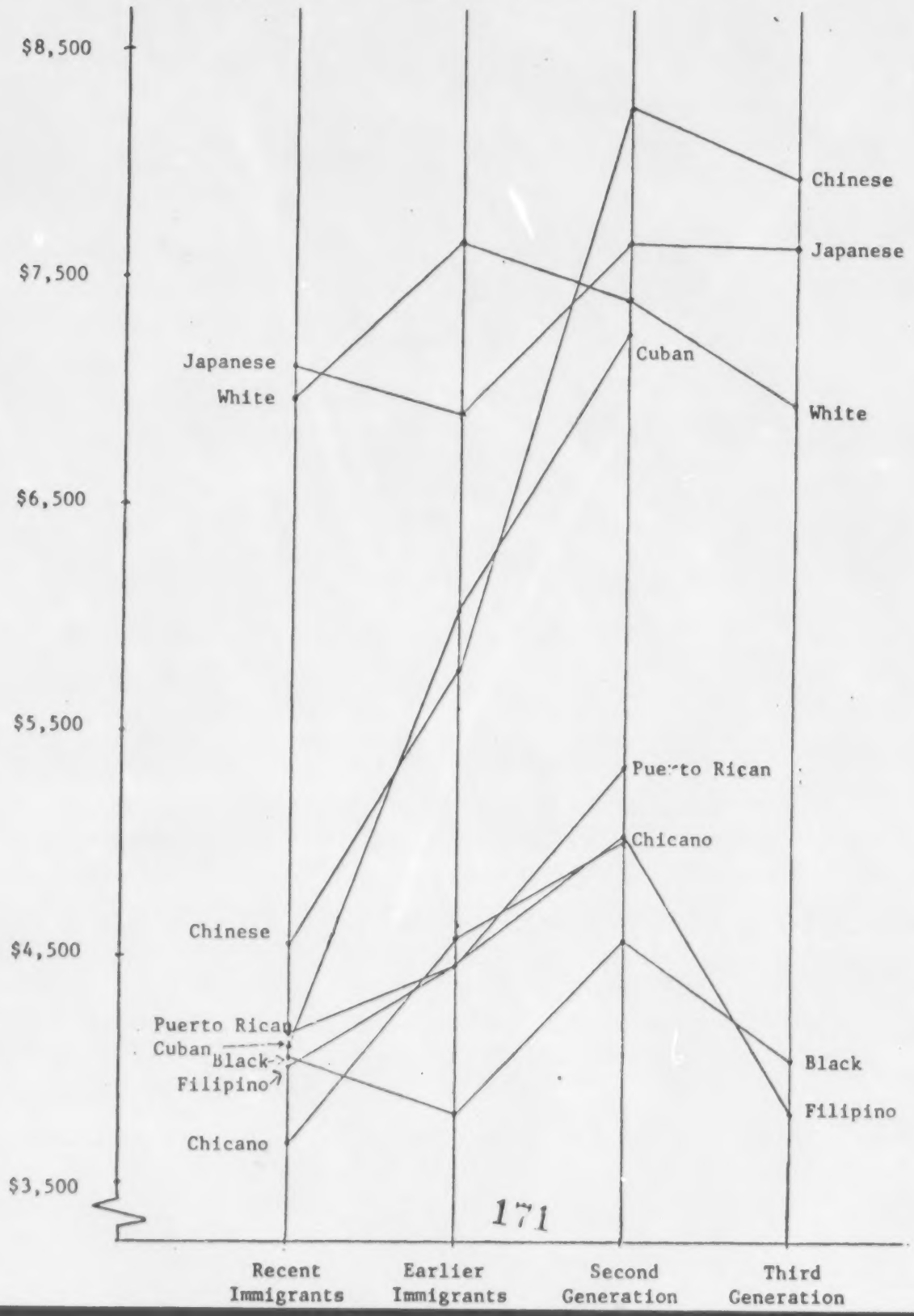
Since b_s is about .05 for all eight ethnic groups, the second and third terms in var $(\hat{E}_1)$ are close to zero, so the t statistic can be approximated by

$$t = \frac{\hat{E}_2 - \hat{E}_1}{\sqrt{\text{var } b_1 + \text{var } b_2 - 2 \text{ cov } b_1 b_2}}.$$

This can be calculated from the variance-covariance matrix of the regression. The difference between recent and earlier immigrants was significant at the five percent level for six of the eight ethnic groups, between earlier immigrants and the second generation for four of the eight groups, and between the second generation and the third for three of the five groups.

Figure 6.2

Earnings by Generation Adjusted for Demographic Factors



Finally, the third generation consistently earns less than the second, in spite of their presumably more advantaged start in life.

What implications do these results have for the hypotheses discussed in Section 6.2? First, the large increase in earnings within the lifetimes of immigrants themselves is consistent with human capital theories of achievement. The investment of migrants in their moves has typically been considered to include primarily the monetary cost of the move itself, and the personal costs of leaving one's home. But it is reasonable to assume that foreign migrants especially spend considerable effort in acquiring a new language, in making contacts which will help them find jobs, and in learning American business practises. Although there is no information available on the investments which immigrants make once they come to this country, the sharp rise in earnings between recent immigrants and earlier immigrants may well be the return to such post-immigration investments. It may be somewhat unexpected that most economically important aspects of acculturation take place within the first generation, but it is not contrary to the implications of human capital theory.

However, the decrease in earnings from the second to the third generation cannot be explained within a human capital framework. Taking account of other factors which might affect an individual's human capital, such as age, race, and marital status, or demand side factors like location, does not eliminate this decline. Since men whose families have been in this country for three or more generations should have at least as much human capital, other things equal, as men whose fam-

ilies have only been here for two generations, some other explanations of this phenomenon are required.

The culture of poverty theory does not seem to explain the decline either. We argued above that if blacks or other ethnic groups who have suffered from discrimination in the past were trapped by such a culture, we would expect a decline in earnings from immigrants to natives, or perhaps from the second to the third generation, for those groups. Both immigrants and earlier generations might suffer from current discrimination, but only the earlier generations would bear the legacy of past discrimination as well.

However, all five ethnic groups, including whites, show a decline from the second to third generation. This common decline probably has a common cause. While the present data do not allow us to reject a culture of poverty explanation for the decline among blacks, by Occam's razor we should probably look elsewhere for the explanation of this decline among ethnic groups who did suffer from discrimination as well as among those who did not.

A regression to the mean, both in motivation and in intelligence, seems to be the most plausible source of the decline. Suppose that these personality characteristics can be measured on a scale M with mean zero, and that they are determined by a random component ε and by a component which can be passed on by parents, either through heredity or home environment.

$$(4) \qquad M_{g+1} = \rho M_g + \varepsilon_g$$

where M_{g+1} is the individual's motivation and intelligence, M_g is that of his parents, ρ is the percentage his parents can pass on to him, and ε_g is the random component with expected value zero.

Because they have migrated, it is plausible to assume that the

average motivation of immigrants (M_1) is greater than the average for the entire population ($\bar{M}$). The expected value of the second generation's motivation (M_2) will still be greater than $\bar{M}$, since ρM_1 will be greater than $\bar{M}$. But for the third generation, the grandchildren of immigrants,

$$(5) \qquad M_3 = \rho^2 M_1 + \rho \varepsilon_2 + \varepsilon_3$$

will be very close to zero. This is especially true in the present sample, since our third generation includes many men whose families came to this country many generations ago. For them ρ will be raised to a much higher power than the second.

Now the effect of generation (G) on earnings in equation (2) can be separated into human capital (H) and motivational (M) components.

$$(6) \qquad E_i = \beta_0 + \beta_1 S_i + \beta_2 D_i + \beta_3 H_i + \beta_4 M_i + v_i$$

H will increase substantially with generation, and will never decrease. But M will start above average for immigrants, and then decline with G. Since these two variables move in opposite directions, the generation-earnings curve is concave. Increases in human capital, in the form of acculturation, outweigh decreases in motivation during the lifetimes of the immigrants, and usually between immigrants and their sons. But decreases in motivation or intelligence outweigh any further increases in acculturation after the second generation.

6.6 Education and Occupation

We have discussed how earnings change with succeeding generations, but several questions remain about the sources of the differences that do exist. Do differences in education cause most of the earnings differences among the generations, or do earnings differences persist,

even after education as well as demographic factors have been held constant? Are immigrants able to benefit from their schooling to the same extent as natives, or is it difficult for them to transfer credentials and knowledge from one country to another? Does lack of knowledge of English or of American labor markets prevent immigrants from entering lucrative occupations? Or do most of the differences between generations occur within occupation?

To see how much of the generational differences in earnings result from differences that occur in labor markets rather than in schools, adjusted earnings were calculated using the regressions discussed above according to

$$(7) \qquad E^*_g = b_0 + b_s\bar{S} + b_d\bar{D} + b_3G$$

where $\bar{S}$ is the average years of school for the entire ethnic group, not each generation. This statistic is the earnings which each generation would have if it were equal in terms of education as well as age, marital status, and location to the ethnic group's average.[14]

These new adjustments, shown in Table 6A5, indicate that educational differences between the generations do not explain most of the earnings differences. Comparing Table 6A5 with Table 6A4 shows that controlling for education narrows the range between generations somewhat for Puerto

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14. This adjustment also controls for differences in the levels at which immigrants enter the society. Taeuber and Taeuber (1967) have objected to studies of ethnic mobility which compare first and second generation workers because with tightened restrictions, the average skills of the first generation have risen considerably during the last fifty years, even for immigrants from the same country. Therefore, the current population of immigrants may have considerably higher skills than the parents of the current second generation. Comparing the achievement of these two generations would understate the mobility of the second generation. However, if we control for education, the remaining differences in earnings will reflect actual mobility. See Table 6A6 for data on years of school by generation and ethnic group.

Ricans, Chicanos, Cubans and Chinese, though most of the generational differences remain. Among blacks and Filipinos there is virtually no change, and for whites and Japanese the differences between generations actually increase when education is held constant. Virtually all of the generational differences that were statistically significant before adjusting for education remain significant after the additional adjustment. Thus differences in the levels of education among generations account for a relatively small part of the differences in earnings.

Generational differences in the effect of education are also not important. For several reasons it was thought that education might have a higher return for natives than for immigrants. Foreign schools might be of lower quality than American schools, or at least less useful in providing skills for American labor markets. Credentials offered by foreign schools might be harder for employers to interpret, and therefore less helpful in gaining employment for their holders. On the other hands, well educated immigrants may have learned English in school, and thus may have a greater advantage over poorly educated immigrants than well educated natives have over poorly educated natives. Education may also be more highly correlated with other useful characteristics among immigrants than among natives, for instance, having grown up in cities.

To see whether the effect of education on earnings differed among generations, additional earnings regressions were run which included two education-generation interaction terms. The first (SM) was equal to years of school if the individual was a recent immigrant, and zero otherwise. The second (SN) was equal to years of school if the individual was native born. Table 6.1 presents the coefficients of the three education variables from these eight regressions, with t statistics in

Table 6.1

Returns to Schooling by Generation

	White	Black	PR	Chic-ano	Cuban	Japa-nese	Chi-nese	Fili-pino
S	.053	.026	.042	.046	.048	.061	.056	.025
	(.01)	(.021)	(.004)	(.003)	(.005)	(.014)	(.005)	(.008)
SM	-.030	.003	-.004	-.017	-.028	-.033	.002	.001
	(.029)	(.027)	(.005)	(.005)	(.004)	(.024)	(.012)	(.014)
SN	.011	.028	.010	.0036	.014	.000	.023	.033
	(0.14)	(.021)	(.004)	(.0023)	(.007)	(.015)	(.012)	(.017)

parentheses.

Two of the SM coefficients are significantly negative, and four of the SM coefficients are significantly positive. Since the reference group is earlier immigrants, we can infer from these results that little difference exists among immigrants in the effect of education. At least among Puerto Ricans, Cubans, Chinese, and Filipinos, however, natives do seem to benefit from schooling significantly more than immigrants. These results are consistent with two interpretations. One is that a foreign education is of lower quality, or at least of less usefulness in American labor markets, than an American education. The other is that foreign credentials are more difficult for American employers to interpret, and therefore of less value than American credentials.

It was argued above that if education serves primarily as a screening device, then we should expect larger differences between immigrants and natives in occupational status than in earnings. Credentials are probably harder to transfer from foreign countries than skills, so immigrants should have more trouble gaining entry to high status occupations than in earning good incomes. We should also expect generational differences in the effect of education to be larger for occupation than for earnings, if the screening hypothesis is correct.

To examine these possibilities, regressions were run using Duncan scores as dependent variables and the same independent variables as in the earnings regressions discussed above.[15] The results do not support the hypothesis that education increases credentials rather than productivity. Other things, including education, equal, recent immigrants had higher Duncan scores than earlier immigrants of the second generation among four out of the eight groups, but higher earnings only for one group. The

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15. See Blau and Duncan (1967) for a description of this index.

second generation had significantly higher Duncan scores than earlier immigrants among Puerto Ricans alone, but they had significantly larger earnings for four groups. Thus the relative position of immigrants when measured by occupational status is higher than their position when measured by earnings.

To compare differences in the effect of education, a new set of Duncan regressions were run including the two schooling-generation terms, SM and SN. The effect of education on Duncan scores was significantly higher for natives than for immigrants among six ethnic groups, versus four groups for earnings. This difference between the Duncan regressions and earnings regressions does not offer much support to the screening hypothesis.

One final question concerns occupation's role as a mediating factor in explaining earnings differences, a large number of studies have shown that blacks and women receive lower earnings than whites and men partly because they are excluded from high status occupations and partly because they earn less even when they have the same occupation. Differences in occupational status may also account for a large part of generational earnings differences as well. Immigrants may be excluded from good occupations because of language difficulties, lack of proper credentials, or a lack of knowledge of American social graces. Once in an occupation, however, their greater motivation may compensate for other disadvantages.

One way of testing this hypothesis is to hold occupation constant by including a measure such as a Duncan code in regressions similar to the ones discussed above. The generational coefficients from such regressions then indicate the earnings differences that remain among

men similar with respect to occupation, education, age, marital status, location, and race. The coefficients from all eight regressions changed only slightly with the addition of an individual's Duncan score to the list of independent variables. Therefore we can conclude that most generational earnings differences occur within occupations. Whatever handicaps immigrants may have compared to similar natives persist even for people within the same narrowly defined occupation.

6.7 Conclusion

Results from this study indicate that the speed of acculturation for immigrants is very rapid. Although immigrants earn far less than natives when they first arrive, during their own lifetimes their position improves rapidly. All eight ethnic groups examined show a sharp increase in annual earnings between recent immigrants and those who have been here for more than five years. For six of the eight groups, this difference remains large when age, marital status, and location are held constant, though the increases are somewhat smaller. A further increase in adjusted earnings occurs among seven of the eight groups between earlier immigrants and the second generation, that is, the children of immigrants. However, there is a small to moderate decrease in adjusted earnings from the second to the third generation for all five ethnic groups with an identifiable third generation.

Two offsetting factors probably explain this surprising pattern. At first, earnings improve rapidly as immigrants and their children learn to speak good English and as they learn American social and business practises. With succeeding generations, the rate of acculturation declines. Offsetting the effect of acculturation is the higher motivation or intelligence of immigrants. They are able to pass some of

this on to their children, but over time there is a regression to the mean. During the first two generations, the incerase in acculturation is greater than the decrease in motivation, but by the third generation, the reverse is true, and earnings decline.

These findings may explain several earlier studies based on 1950, 1960, and 1969 data. For instance, Lieberson (1963) found an increase between the first and second generation for men from Italy, Russia, Ireland, and Sweden, but not for men from Britain or Germany. A reasonable explanation is that the latter had little trouble adapting to a new country whose language they usually knew from birth, but the former required at least a generation before feeling at home here. Similarly, Master's (1972) and Wertheimer's (1970) findings that the earnings of South to North migrants only exceed those of Northern nonmigrants after five years also suggest that the period needed for acculturation may be very short for native English speakers, so that decreases in motivation outweigh increases in general skills within one generation.

Several alternative sources of immigrants' lower earnings were examined. Controlling for differences in education accounted for only a small part of the differences among generations in earnings. However, immigrants did not benefit as much from additional schooling as did natives, perhaps because their foreign education was of lower quality or at least less useful than American education. Immigrants of most of the groups did not have significantly lower occupational status than natives, but holding occupation constant did little to decrease the differences in earnings. That is, almost all of the differences between generations in earnings occurred within, rather than between, occupations.

Table 6A1

Earnings by Nativity and Ethnicity

	White	Black	PR	Chicano	Cuban	Japanese	Chinese	Filipino
Recent Immigrants	$5906	$4791	$4410	$4022	$5255	$8424	$5109	$5020
Earlier Immigrants	$10265	$6711	$5706	$5845	$7502	$9143	$8381	$5967
Second Generation	$10265	$6743	$6345	$6500	$8551	$10228	$10463	$6675
Third Generation	$8471	$5238				$7316	$8734	$4700
TOTAL	$8826	$5260	$5620	$6077	$6821	$9250	$8514	$5767

Table 6A2

Age by Nativity and Ethnicity

	White	Black	PR	Chic-ano	Cuban	Jap-anese	Chi-ese	Fili-pino
Recent Immigrants	32.7	35.9	29.2	30.6	41.6	32.7	36.8	32.6
Earlier Immigrants	48.0	45.2	36.0	40.9	40.8	41.4	43.2	45.9
Second Generation	46.8	43.1	31.7	38.2	38.3	45.0	41.2	32.5
Third Generation	39.0	38.2				31.4	37.3	37.8
TOTAL	40.6	38.3	34.6	38.6	40.9	40.3	41.1	39.6

Table 6A3

Percent Married Spouse Present

by Generation and Ethnicity

	White	Black	PR	Chic-ano	Cuban	Jap-anese	Chi-nese	Fili-pino
Recent Immigrants	56	73	62	55	78	73	54	52
Earlier Immigrants	85	68	78	79	83	74	81	62
Second Generation	85	66	61	79	72	82	72	66
Third Generation	80	67				52	58	40
TOTAL	81	67	74	78	81	73	73	59

Table 6A4

Earnings by Generation
Adjusted for Demographic Factors

	White	Black	PR	Chic-ano	Cuban	Jap-anese	Chi-nese	Fili-pino
Recent Immigrants	$6690	$4060	$4170	$3690	$4100	$7110	$4560	$4010
Earlier Immigrants	$7680	$3810	$4460	$4590	$6040	$6910	$5780	$4460
Second Generation	$7410	$4580	$5350	$5020	$7260	$7670	$8260	$5040
Third Generation	$6980	$4050				$7650	$7960	$3810
TOTAL	$7020	$4030	$4570	$4710	$5460	$7600	$6400	$4450

Table 6A5

Earnings by Generation, Adjusted for Education and Demographic Characteristics

	White	Black	PR	Chicano	Cuban	Japanese	Chinese	Filipino
Recent Immigrants	$7070	$3760	$4200	$4020	$4330	$6220	$4740	$3730
Earlier Immigrants	$8060	$3590	$4500	$4840	$5880	$6760	$5950	$4640
Second Generation	$7370	$4290	$4950	$4800	$7010	$7810	$7770	$4950
Third Generation	$6970	$4060				$7600	$7690	$3890

Table 6A6

Education by Nativity and Ethnicity

	White	Black	PR	Chic-ano	Cuban	Japa-nese	Chi-ese	Fili-pino
Recent Immigrants	11.4	11.0	8.5	5.8	9.0	15.0	11.1	13.2
Older Immigrants	10.9	10.7	8.4	6.5	11.1	13.0	11.3	9.4
Second Generation	11.7	10.7	10.5	8.6	11.4	12.4	12.8	11.4
Third Generation	11.6	9.5				12.8	12.3	10.1
TOTAL	11.6	9.5	8.6	7.6	10.5	12.7	11.8	10.8

Table 6A7

Hours Worked by Generation and Ethnicity

	White	Black	PR	Chic-ano	Cuban	Jap-anese	Chi-nese	Fili-pino
Recent Immigrants	37.9	37.1	31.3	37.0	37.8	39.7	40.8	26.5
Earlier Immigrants	41.6	37.7	34.4	35.9	39.0	41.2	41.0	31.0
Second Generation	40.1	34.6	33.1	35.9	39.2	41.2	39.9	33.0
Third Generation	38.3	33.4				33.4	37.6	23.6
TOTAL	38.7	33.5	33.9	36.0	38.6	39.0	40.2	29.7

REFERENCES

Duran Bell, "Why Participation Rates of Black and White Wives Differ," Journal of Human Resources 9, 465-79 (1974).

Yoram Ben-Porath, "Labor Force Participation Rates and the Supply of Labor," Harvard Institute of Economic Research, Discussion Paper 206.

Mark Blaug, "The Empirical Status of Human Capital Theory: A Slightly Jaundiced Survey," Journal of Economic Literature 14: 3, September 1976.

Peter Blau and O.D. Duncan, The American Occupational Structure (New York: Wiley), 1967.

Michael Boskin, "The Economics of Labor Supply" in Income Maintenance and Labor Supply, Glen Cain and Harold Watts (eds.), Chicago, 1973.

William Bowen and T.A. Finegan, The Economics of Labor Force Participation, Princeton, 1969.

Glen Cain, Married Women in the Labor Force, Chicago, 1966.

Geoffrey Carliner, "Returns to Education for Blacks, Anglos, and Five Spanish Groups," Journal of Human Resources 11: 2, Spring 1976.

Barry Chiswick, "Sons of Immigrants: Are They at an Earnings Disadvantage?" American Economic Review, 67: 1, February 1977.

Duncan, Beverly and Otis Dudley Duncan, "Minorities and the Process of Stratification," American Sociological Review 22, June 1968.

Duncan, Dudley and David L. Featherman, "Psychological and Cultural Factors in the Process of Occupational Achievement," Social Science Research 1:2, June 1972.

O.D. Duncan, "A Socioeconomic Index for All Occupation," in Albert Reiss (ed.), Occupations and Social Status, (New York: Free Press), 1961

O.D. Duncan, D.L. Featherman and B. Duncan, Socio-economic Background and Achievement, (New York: Seminar Press), 1972.

Walter Fogel, "The Effect of Low Educational Attainment on Incomes: A Comparative Study of Selected Ethnic Groups," Journal of Human Resources, 1:2, Fall 1966, pp. 22-40.

Walter Fogel, "Mexican Labor in United States Labor Markets," Proceedings of the Industrial Relations Research Association, December 1974

Irv Garfinkel and Stanley Masters, "The Effect of Non-Employment Income and Wage Rates on the Labor Supply of Prime Age and Older Males," Institute for Research on Poverty Discussion Paper 193, (1974).

Gilbert Ghez and Gary Becker, The Allocation of Time and Goods Over the Life Cycle, New York, 1974.

Wendy Lee Gramm, "Household Utility Maximization and the Working Wife," American Economic Review 65, 90-100, 1975.

G. Cockel, "Income and Religious Affiliation: A Regression Analysis," American Journal of Sociology 74, pp 632-48, 1969.

S. Goldstein, "Socioeconomic Differentials Among Religious Groups in the United States," American Journal of Sociology 74, pp 612-31, 1969

Robert Hall, "Prospects for Shifting the Phillips Curve through Manpower Policy," Brookings Papers on Economic Activity, 1971: 3

Robert Hall, "Wages, Income, and Hours of Work in the U.S. Labor Force," in Income Maintenance and Labour Supply, Glen Cain and Harold Watts (eds.), Chicago, 1973.

C. Jones and R Husby,"Constructing an Hourly Wage from Weeks and Hours Worked," Industrial Relations, 15: 1, February 1976.

Edward Kalacheck and Fredric Raines, "The Structure of Wage Differences Among Mature Male Workers, Journal of Human Resources 11: 4, Fall 1976.

John Lansing and James Morgan, "The Effect of Geographic Mobility on Income," Journal of Human Resources 2: 4, Fall 1967.

Arleen Leibowitz, "Education and the Allocation of Women's Time," in Education, Income, and Human Behavior, F.T. Juster (ed.), New York, 1975.

C.C. Li, "A Tale of Two Thermos Bottles: Properties of a Genetic Model for Human Intelligence," in Robert Cancro (ed.), Intelligence: Genetic and Environmental Influences.

Stanley Liberson, Ethnic Patterns in American Cities (New York, Free Press of Glencoe, 1963).

James Long, "Employment Discrimination in the Federal Sector," Journal of Human Resources 11: 1 , Winter 1976.

Jerolyn R. Lyle, "Factors Affecting Job Status of Workers with Spanish Surnames," Monthly Labor Review, Vol. 96, No. 4, pp 10-16, April 1973.

Stanley Masters, "Are Black Migrants from the South to the Northern Cities Worse Off Than Blacks Already There?" Journal of Human Resources 7: 4, Fall 1972.

Jacob Mincer and Solomon Polachek, "Family Investment in Human Capital: Earnings of Women," Journal of Political Economy 82, S76-S108, 1974.

Charles Nam, "Nationality Groups and Social Stratification in America," Social Forces 37: 4, May 1959.

Albert Niemi, "Racial and Ethnic Differences in Returns on Educational Investment in California and Texas," Economic Inquiry 12: 3, September 1974.

Albert Niemi, "Wage Discrimination Against Negroes and Puerto Ricans in the New York SMSA," Social Science Quarterly 57:3, December 1976.

David North, Immigrants and the American Labor Market, (Springfield, Va., National Technical Information Service) 1974.

David North and Marion Houston, The Characteristics and Role of Illegal Aliens in the U.S. Labor Market: An Exploratory Study, (Washington, D.C.: Linton & Company),1976.

Michael Piore, "The 'New Immigration' and the Presumptions of Social Policy," Proceedings of the Industrial Relations Research Association, December 1974.

Dudley Poston and David Alvirez, "On the Cost of Being a Mexican American Worker," Social Science Quarterly 53: 4, March 1973.

Dudley Poston, David Alvirez, and Marta Tienda, "Earnings Differences Between Anglo and Mexican American Male Workers in 1960 and1970," Social Science Quarterly 57: 3, December 1976

Bernard Rosen, "Race, Ethnicity, and the Achievement Syndrome," American Sociological Review 24, February 1959.

Sharon Smith,"Government Wage Differentials by Sex," Journal of Human Resources 11: 2, Spring 1976.

James Sweet, Women in the Labor Force, Chicago, 1973

Alma Taeuber and Karl Taeuber, "Recent Immigration and Studies of Ethnic Assimilation," Demography 4: 2, 1967

Lester Thurow, Poverty and Discrimination, (Washington: Brookings), 1969

Leonard Weiss and Jeffrey Williamson, "Black Education, Earnings and Interregional Migration: Some New Evidence," American Economic Review, Vol. 62, No. 3 (June 1972), pp 372-83.

Randall Weiss, "The Effect of Education on the Earnings of Blacks and Whites," Review of Economics and Statistics 52: 2, May 1970.

Finis Welch, "Black-White Differences in Returns to Schooling," American Economic Review 63: 5, December 1973.

Richard Wertheimer, The Monetary Rewards of Migration Within the U.S. (Washington, D.C., Urban Institute), 1970.

Harold Wong, "The Relative Economic Status of Chinese, Japanese, Black and White Men in California," Ph.D. dissertation, University of California, Berkeley, 1974.

U.S. Bureau of the Census Documents

1970 Census of Population

Characteristics of the Population, U.S. Summary, Vol. 1, Part 1.
Negro Population, PC(2)-1B
Persons of Spanish Origin, PC(2)-1C
Puerto Ricans in the U.S., PC(2)-1E
American Indians, PC(2)-1F
Japanese, Chinese, and Filipinos in the U.S., PC(2)-1G

Historical Statistics of the U.S., Colonial Times to 1957

Statistical Abstract of the U.S., 1975.